

Fort Garry Hotel, Winnipeg May 14-15-16, 1936

sent cases and lead in the discussion.

12.15- 2.30 p.m.—Annual General Meeting.

Lunch, Fort Garry Hotel. Presidential Address, F. G. McGuiness, F.R.C.S. (C.).

2.30- 5.00 p.m.—Scientific Meeting.

Chairman—Prof. C. R. Gilmour. The programme will be entirely medical.

1. Convulsions in Hypertensive States—Lennox G. Bell, M.R.C.P. (Lond.).

2. Hypoglycaemic — Chas. Walton, M.D. Discussion, Prof. C. R. Gilmour.

3. Nervous Symptoms and Disturbances of the Menstrual Cycle. Gilbert Adamson, M.R.C.P. (Ed.).

4. Kidney Conditions Complicating Pregnancy. A. Hollenberg, M.D. (Man.).

5. Treatment of Syphilis. Geo. Brock, M.D. (Man.), M.S. (Minn.).

7.30 p.m.—Annual Dinner and Dance. Fort Garry Hotel.

SATURDAY, MAY 16th, 1936.

9.00- 9.40 a.m.—Scientific Meeting.

Golden Rules in Obstetrics. Brian Best, M.D. (Man.), Killarney, Man. Discussion opened by W. S. Peters, M.D. (Man.), Brandon.

9.40-10.20 a.m.—The Treatment of Fractures from the standpoint of the General Practitioner. C. K. Cunningham, M.D. (Man.), Carman. Discussion opened by W. A. Gardner, F.R.C.S. (C.).

10.20-11.00 a.m.—Injection Treatment of Hernia. T. E. Holland, F.R.C.S. (Edin.). Discussion opened by B. J. Brandon, M.D., F.R.C.S. (C.). The original papers are to occupy twenty minutes.

11.30-12.00 a.m.—Treatment of Trigeminal Neuralgia
—Oliver Waugh, F.R.C.S. (C.).

LADIES' PROGRAMME

Afternoon Tea—4.00 to 6.00 p.m., Thursday, May 14th. The Ladies' Committee of the Manitoba Medical Association will serve tea at the home of Mrs. F. G. McGuiness, 61 Cordova Street, Winnipeg.

Luncheon—1.00 p.m., Friday, May 15th. Wives of the Retiring Executive will be guests of Mrs. McGuiness at a Luncheon to be held at the Manitoba Club.

Annual Dinner and Dance—7.00 p.m., Friday, May 15th, at the Fort Garry Hotel.

Other Functions—A tour of the University will be arranged for those interested. Golf games will also be available at various golf courses.



Good Spirits

26½ oz. \$3.15 - 40 oz. \$4.65

 **Hudson's Bay Company.** 

INCORPORATED 21st MAY 1670.

This advertisement is not inserted by the Government Liquor Control Commission. The Commission is not responsible for statements made as to quality of products advertised.



★ PYELITIS ★

Prompt relief of the distressing symptoms which often accompany pyelitis may be obtained by the oral administration of Pyridium.

Shortening of the duration of treatment has been reported in many cases. Pyridium is non-toxic and non-irritative in therapeutic doses. Pyridium solution for kidney lavage may be employed effectively with the oral administration of the tablets.

TRADE **P Y R I D I U M** MARK

LITERATURE WILL BE MAILED ON REQUEST
MERCK & CO. Ltd. *Manufacturing Chemists* MONTREAL

Clinical Section

*The Medical Management of Peptic Ulcer

By

JOHN M. McEACHERN, M.D., F.R.C.P. (C.)
Assistant Physician to the Winnipeg General Hospital
Lecturer in Medicine, University of Manitoba

Peptic ulcer is a systemic disease which occurs among many races and classes of humanity. It occurs rarely in primitive man, is commonly found in teachers, lawyers, physicians, business executives and in that large group in other walks of life that are worried, anxious and subject to nervous dyspepsia and constipation. The disorder is common in Jewish and Latin peoples; rarely found amongst the American negroes. It affects the male sex in the proportion of 8 to 1.

Chronic ulcer of the stomach or duodenum tends to persist throughout life when once established. The local lesion so characteristic of the constitutional disorder may heal spontaneously or under adequate treatment, but tends to recur when systemic or traumatic factors again become dominant. We now recognize that the abolition of symptoms is but the first step in the healing of an ulcer. We also realize that no patient can be considered as satisfactorily treated who has not been kept under strict control for at least six months. Thereafter such a patient must modify his life in the direction of careful choice of food. Such restriction includes frequent small meals and probably the use of alkalies (especially at night) throughout life. Rivers and others have stressed other factors in management which are even more important.

There would seem to be little doubt that nervous imbalance with disturbed parasympathetic and sympathetic function plays a vital role in the production of ulcer symptoms. Such imbalance disturbs the motile and secretory functions and affects sphincter control (Rivers).

The important factors in the ulcer syndrome are:

1. Traumatization of local tissue.
2. "The defense reaction" or the susceptibility of the mucosa to acid-pepsin erosion "The factor of mucosal resistance."
3. The neurogenic element.

Rivers roughly assesses the importance of these as: trauma 10, tissue defense 20 and the neurogenic element at 70.

As an example of traumatic influences it is well known that shallow erosions occur with purpura, infectious diseases or associated with burns.

Roughage, irritants, mechanical pressure from a diaphragmatic hernia may at times produce an ulcer. Foreign bodies have been known to cause gastric ulcer.

Such causes do not work alone. In control is an interlocking directorate of trauma, acid chyme erosion and the psychogenic factor. Trauma or infection would have little effect without the erosive action of the acid pepsin secretion. This secretion becomes aggressive when infection or systemic disorder weakens the defensive mechanism of the mucosa.

The battle between mucosa and gastric chyme ebbs and flows with the susceptibility of the individual. This susceptibility in turn is altered by infections and emotional storms. Eusterman suggests a hereditary susceptibility of the mucosa. Most of us are fortunately endowed with a steel plated gastric mucous membrane. It withstands insults of the most virulent kind.

There is a striking similarity of type in most ulcer bearing patients. They are usually keen, intensive, high strung, hard driving types. They are given to worry, anxiety and depression. They permit no periods of relaxation in the pursuit of their objectives.

Recurrence of symptoms in these individuals apparently corresponds to periods of intense emotional upset or an increase in nervous tension. The symptoms appear under these circumstances and often disappear just as dramatically with the prescription of a holiday or a new method of treatment.

Recurrence of symptoms is well illustrated in a patient—a keen aggressive business man who developed a duodenal ulcer some years ago. He has responded well to treatment. The patient is a fast driver, much to the annoyance of his friends, one of whom decided to teach him a lesson. The friend drove the patient home from Minneapolis at an average speed of 60 miles an hour, including stops. The strain, the suppressed anger and the restraint necessary to appear unconcerned seemed to be definite factors in the return of acute ulcer symptoms 24 hours later.

Many failures in the treatment of ulcer can be attributed to neglect in the control of these neurogenic factors. When will we learn that a printed diet sheet, 50 cents worth of white powder and a little reassurance will not really cure an ulcer? When will we learn that symptoms, like the rash of syphilis, are but a brief episode in the course of the disease. Patients who appear composed and tranquil are often the subjects of the most intense turmoil of emotions beneath the surface. Many of them associate ulcer with cancer and a bluntly delivered diagnosis will only aggravate their symptoms. Others, falsely reassured by their response to dietary measures, promptly lose all hope with the inevitable recurrence of pain.

*Lecture delivered at Post-graduate Course in Gastro-enterology,
 Manitoba Medical College, February, 1936.

The wise physician will take time to explain. He will inform his patient that he has an ulcer, that it will not threaten his life, that the danger of cancer is negligible. He will tell him that it may recur, particularly if he continues to worry or fails to guard against infection or acute periods of intense emotion. These patients must develop an equanimity of mind, a philosophy of life. Vacations, hobbies and adequate rest are of the utmost importance. Relaxation is the rule.

Another pitfall in the management of peptic ulcer cases is the failure of the physician to differentiate between duodenal and gastric ulcers.

The very title of this lecture, peptic ulcer tends to perpetuate this misconception. One characteristic of gastric ulcer, however, absolutely requires its clinical differentiation from duodenal ulcer. According to Eusterman there is an important and very real danger of malignancy in every ulcer located in the stomach, while a malignant lesion in the duodenum is an extremely rare condition. Very often the physician obtains a convincing history of peptic ulcer. He then places the patient on a dietary regime. The symptoms are promptly relieved and the doctor feels it unnecessary to put the patient to the expense of an X-ray examination to localize the lesion. This, in view of the fact that 90 per cent. of ulcerative lesions involve the duodenum and only 10 per cent. occur in the stomach, may not be disastrous. But if the lesion is above the pylorus the results may be unfortunate in the extreme.

The relief of symptoms is an entirely inadequate guide as to the character of the lesion. In fact, even with large frank ulcerating carcinoma, the patient may gain 15 to 20 lbs. in weight and be relieved of symptoms upon an ulcer regime. If symptoms recur in a patient following a strict ulcer diet it often means that malignant invasion has spread outside the stomach and the patient's best chance for operative cure has gone.

It is absolutely essential to determine which side of the pylorus the lesion is located. Every chronic ulcer of the stomach is to be considered malignant until proven otherwise. The incidence of cancer superimposed on gastric ulcer is said to be about 5 per cent. The frequency with which malignant ulcers masquerade as benign ulcer is very striking.

This is well shown by Eusterman and Kirklin in a careful x-ray study. They found that:

1. 23 per cent. of carcinomatous gastric ulcers are the same size as gastric ulcers in the x-ray.
2. In 30 per cent. of carcinomatous ulcers it was not possible to state from an x-ray viewpoint the exact nature of the lesion.
3. 9 per cent. of all carcinomatous ulcers were considered benign by the roentgenologist.
4. 8 per cent. of carcinomatous ulcers occurred in patients who were less than 40 years of age.

The x-ray is the most reliable method of localizing the lesion and differentiating gastric ulcer

from cancer. This is not reassuring to those of us who have many poor patients or who are hundreds of miles away from a competent roentgenologist. However, much help can be obtained from the history and examination, points which will no doubt be stressed in the clinics.

Alvarez and Vanzant have recently suggested a new "methodology" in diagnosis. They calculated arithmetically the value of gastric analysis in diagnosis. The figures are startling. Of 625 patients submitting to gastric analysis in a large clinic for various reasons during a specified period five had gastric carcinoma, one had gastric ulcer, twenty had duodenal ulcer. The figures are for males. The odds would appear to be against a gastric lesion as seen later in the x-ray being benign.

These male cases were then divided into those with free acid and those without.

Of those with free acid, 1% had gastric carcinoma, 1% gastric ulcer, 25% had duodenal ulcer. Of those without free acid, 22% had gastric carcinoma, 0.8% had gastric ulcer and 0.8% had duodenal ulcer. These figures would be altered by local or economic factors, but they are of great interest.

In suspected peptic ulcer a complete and thorough examination, including gastric analysis, stool examination and barium series is the ideal. If the lesion is localized in the stomach the patient should be treated in bed with a strict dietary regime of the Sippy type. In a few days the symptoms should recede. In two weeks they should disappear. If at the end of three weeks there is still blood in the stool or stomach contents our suspicions are aroused. If the ulcer niche has not been reduced at least 50 per cent. in the x-ray we do not hesitate to resort to surgery. The ulcer is very likely carcinomatous. If the ulcer niche is reduced by 50 per cent. it is proper to allow the patient home on a convalescent diet. Failure to frequently recheck a patient with gastric ulcer amounts to negligence on the part of the physician. The public are rapidly becoming educated to this effect.

Carcinomatous ulcers elect the prepyloric portion of the stomach, the posterior wall and the greater curvature. Any doubt about the nature of the lesion or failure to respond to an ulcer regime justifies surgical consideration.

Having emphasised the importance of the neurogenic factor, the prevention of infection, particularly upper respiratory ones, and the localization of the lesion, we now come to the treatment of the mucosal defect. The ideal treatment of this factor would seem to be,—

1. To raise the resistance of the mucosa to erosion.
2. To combat the formation of the erosive acid pepsin secretion at its source and not after it reaches the stomach cavity.

Unfortunately such is not possible at present. Our crude efforts are directed toward neutralizing the erosive juice after its secretion and relieving the spasm associated with the ulcer.

With all types of peptic ulcer hospitalization at the outset is still desirable. These patients are in urgent need of rest. The very fact that they are restless and impatient makes this fact more apparent. A few days of rest in bed and your patient will be much more co-operative.

Blackford and Bowers advocate an ambulatory regime. If the patients are co-operative and the symptoms mild this may be satisfactory.

At any rate your patient requires at first at least twelve hours rest, with a noon day nap. Later nine hours may be sufficient. Anything less than eight hours a day may result in fatigue and delay in healing. Tobacco should be interdicted entirely or markedly restricted.

The orthodox treatment of ulcer is still that devised by Sippy or one of its modifications. It has many shortcomings but is more practical and less complicated than that recommended by Hurst of London. The older Sippy diets were not well balanced with regard to protein, mineral salt and vitamin content. Proteins should be supplied in reason as they absorb acid and do not increase it. Vitamins may be given in concentrated form vitamins A, B and D are available in convenient capsules. Since fruit juices do not agree the crystalline vitamin C may be supplied to prevent scurvy. If milk gives distress due to rapid curd formation one may add sodium citrate gr. x to each feed. Failing relief from this, strained gruel made with rice barley or cream of wheat may be substituted. Malted milk or Robinson's groats may be used. Too much cream may overburden the liver. One or two feedings of olive oil a day appear to be beneficial. In a further effort to combat acidity and spasm, alkaline powders are often given at the half hour interval between feeds in the early stages. Bismuth and sodium bicarbonate are the least satisfactory alkalis. Bismuth oxycarbonate is expensive, acts only in a protective way by depositing a pellicle and has little neutralizing powder. Sodium bicarbonate gives quick temporary relief but produces much gas, quickly causes alkalosis and there is a distressing after rise in acidity from its use. If used it must be covered by the carbonates to counteract the after rise in acidity.

A useful powder is Sod Bicarb. 1 part, Bismuth oxycarb 1 part, Mag. carb 3 parts, calc. carb 4 parts. Dose 30 grains. If diarrhoea occurs the calcium salt may be increased at the expense of the magnesium.

There are certain dangers with alkali therapy. Patients on a diet of low salt content tend to develop alkalosis readily with certain alkalis, particularly Soda bicarb. This is especially true if there is nephritis, pyelonephritis, cirrhosis of the liver or hypertension. The early symptoms of alkalosis are drowsiness, vertigo and headache.

Later breathing is embarrassed and there is a slow pulse and coma. The blood urea is raised and the blood chlorides lowered. The treatment of course is to withhold alkalis and give sodium chloride. Hurst and his co-workers have shown that tribasic calcium and tribasic magnesium phosphate in equal parts (dose 1 drachm) have great neutralizing power. The alkali is not absorbed and alkalosis does not occur. There is no secondary hyperacidity.

There are certain cases of duodenal ulcer in which the bland diet and alkalis reduce the acid and spasm entirely satisfactorily. There are others in which acid and pepsin values remain high in spite of orthodox treatment. These patients form a small group who respond poorly to all routine treatment. Pain at night persists in these cases. Attempts to control the symptoms by increasing alkali administration either causes alkalosis or a still greater secretion of acid in the stomach. These cases are the surgeon's bugbear. Many of them after operation develop jejunal or stoma ulcers. Hypersecretion is suggested by

1. The persistence of pain at night after the patient ordinarily should be relieved by treatment.

2. An inability to completely neutralize the gastric acidity even during the day but especially at night by orthodox Sippy methods.

3. A tendency for the stomach to produce a greater amount of acid as the alkali is increased.

Proof of this is forthcoming by aspiration through a nasal tube of the secretion during day and night at intervals.

Hypersecretion calls for very careful treatment. Hospitalization is necessary. Alkaline powders are often contra indicated and frequent feedings of a bland diet and milk and cream every hour and gradually reduced are given. Surgical procedures are inadvisable.

There are certain methods of treatment of ulcer which are called unorthodox by Eusterman but give promise of considerable value.

MUCIN THERAPY

The mucin treatment was developed by Fogelson in 1931. 80 to 100 grains of dry mucin powder are given at short intervals along with a bland diet. In his latest report on 555 patients mostly intractable to usual methods 348 are now symptom free (after six months to three years); 114 are partially relieved and 93 are without relief. The treatment was particularly successful in ulcers of the stoma or jejunum following gastroenterostomy.

It is well to remember that mucin increases the blood urea in kidney cases.

Histidine Mono Hydrochloride (Laristidin)

European physicians are very enthusiastic about this form of treatment which, however, is still in the experimental stage. Weiss and Aron in 1933 brought forward some evidence to show

that the amino acids raise the resistance of the mucosa to the erosive action of the gastric juice. Histidine Hel is an amino acid. They believe that amino acid deficiency is one of the causes of ulcer. David Smith, Sado and Aron have recorded striking results with this form of treatment. The patients are allowed to be up and about, and an ordinary diet is allowed without restriction. Daily injections of 5cc of Laristidin (Roche) that is 4 per cent. histidine solution are given intramuscularly for twenty-four successive days. After six weeks of rest Aron recommends a second course. If the case is severe further treatments are necessary at three and six months. According to these observers prompt and early improvement in symptoms is noted. Melena and x-ray evidence of ulcer disappear in 50 per cent. of cases. Ulcer cases with short histories and no obstruction appear to respond best to the treatment.

A Word of Caution.

Experiments carried out at Guy's Hospital have shown that in a given number of ulcer cases the injection of any inert substance is followed by disappearance of symptomatic and radiographic evidence of disease. Peptic ulcers tend to heal spontaneously.

In conclusion I cannot stress too strongly the constitutional nature of peptic ulcer, its life long tendency to persist and the necessity for individualizing its treatment. Treatment of the local lesion alone with dairy products and drug store powders can only result in disappointment and failure.

*Extra Abdominal Causes of Dyspepsia

By

H. D. KITCHEN, M.D., C.M. (Man.)

Assistant Physician, Winnipeg General Hospital
Lecturer in Medicine, University of Manitoba

The dictionary defines dyspepsia as "difficulty of digestion." This implies that when food is taken some or all of the symptoms of pain, heartburn, belching, regurgitation, nausea, vomiting, or diarrhea may occur.

The present communication is an attempt to draw attention to some of the more common causes which may produce these symptoms and which are not dependent etiologically on pathological conditions in the gastro-intestinal tract.

It is recognized that most of the acute infectious fevers may be ushered in by gastric or intestinal symptoms but for the present these will not be considered.

Perhaps when one looks for extrinsic causes of dyspepsia and abdominal symptoms, one thinks first of the region immediately above the diaphragm and so we must consider the respiratory system with particular reference to pneumonia, pleurisy and tuberculosis.

*Lecture delivered at Post-graduate Course in Gastro-enterology, Manitoba Medical College, February, 1936.

Pneumonia, while it is usually announced by a severe pain in the lower chest, may manifest itself by pain in the abdomen and in children this may be in the right lower quadrant and simulate acute appendicitis. This syndrome has been dwelt upon so often that one always carefully examines the chest and looks for an increased respiration rate and a greater degree of leucocytosis as evidence of pneumonia before deciding upon exploration of the abdomen. However, it is less serious to open an abdomen needlessly than to allow an appendix to rupture.

Basal Pleurisy may simulate an acute abdomen and the clinical findings may reveal little in the way of rales or friction rub in the chest. Rather shallow "catchy" and rapid respiration favor the diagnosis of pleurisy. The movement of the diaphragm on the affected side is limited and while this may be difficult to determine let me remind you of a useful clinical sign, the so-called "Litten's diaphragm shadow." (If good daylight is available the patient is placed with the feet in this direction and the clothing removed from the abdomen and chest. Then it is often possible, if one stands at the side of the patient, to detect the degree of excursion of the diaphragm by noting the faint shadow which moves up and down over the chest wall. In intra-abdominal lesions this is unchanged, while in lesions above the diaphragm it is limited or absent on the affected side). This is, at times, a valuable procedure.

Pulmonary Tuberculosis, even in the absence of bowel involvement, may underlie an obscure dyspepsia and in any such case the lungs must be thought of and carefully examined clinically and if possible radiologically. A study of the temperature record, at four hour intervals, may give a clue.

Disorders of the Cardiovascular System may give rise to varying degrees of dyspepsia.

Cardiac Decompensation is usually associated with loss of appetite and then nausea and vomiting due to venous stasis in the portal system. The diagnosis here is usually obvious and yet even in this "enlightened age" one occasionally sees a patient who has been given alkaline powders for indigestion when even cursory examination would have revealed a large tender liver and a well-marked mitral stenosis.

Pericarditis: Cases have been reported of children who, while recovering from rheumatic fever and still with headache, sore throat and fever, developed confusing abdominal pain in the epigastric and umbilical regions and later in the right lower quadrant, pain which was subsequently found to be caused by an acute pericarditis.

Angina Pectoris may manifest itself by pain which is felt in the epigastrium, is not severe, occurs usually after meals and is often associated with gas and belching, which relieves the discomfort. Thus, it fixes itself in the mind of the sufferer as being gastric in origin. Careful ex-

amination for evidence of sclerosis of the arteries, consideration of the patient's age (usually over 40), and a history that the so-called gastric complaints may occur after excitement or exertion, make the diagnosis fairly definite.

Coronary Occlusion: The diagnosis of this condition may be extremely difficult. The severe pain may be felt most in the epigastrium and the collapse, fall in blood pressure, and subsequent leucocytosis may fit fairly well the acute abdomen—i.e., perforated viscera or acute gall bladder.

The preceding history, if obtainable, is of value. It may point to peptic ulcer or gall bladder disease, or there may be a story of angina with attacks of paroxysmal dyspnea, usually nocturnal, pointing to incipient failure of the left ventricle. If an electrocardiogram can be obtained it may reveal changes which are diagnostic, but on the other hand may not be of any help for several days.

So much has been written about coronary occlusion that nowadays one's first reaction to a severe abdominal episode is to think of this as the probable diagnosis. The following case illustrates this danger and also that sometimes the history may be misleading:—Mrs. G., age 63, seen several days after a very severe attack of upper abdominal pain which had been associated with vomiting. The intensity of the pain had diminished, but slight movement would still bring it on. The history obtained (her own physician being out of town) was that she had been treated for some months for high blood pressure and angina pectoris. Examination revealed moderate temperature (100° F.), normal blood pressure, an apparently normal heart, a tender mass in the right upper abdomen extending almost to the umbilicus. Liver edge was tender to palpation and could be felt also in the epigastrium. No jaundice was present. Leucocyte count was not obtained. The condition suggested an acute cholecystitis with an impacted gall stone and yet with the previous history there was a possibility of a coronary occlusion. The electrocardiogram in this case was valuable because it was normal. Subsequently operation was performed and a gall bladder full of stones with one impacted in the cystic duct, was removed. It is still too early to know if the anginal syndrome will be relieved, but this is possible.

Hypertension: John T. King, in a recent study of one hundred cases of uncomplicated hypertension, reports that pain and tenderness in the epigastrium, flatulence and dyspepsia were complained of in 13 per cent, while nausea and vomiting occurred in almost as many. The incidence of these symptoms in patients with heart disease but no hypertension was slightly greater. The dyspepsia in both groups was thought to be due to mild disturbance of the abdominal circulation.

Aneurysm of the Abdominal Aorta is not a frequent cause of abdominal pain but occasional cases have been reported in which the main

symptom was pain, almost continuous, from the lumbar region across the abdomen and occasionally down into the perineum.

Metabolic Disturbances are frequent causes of dyspepsia. Of these some of the most important to keep in mind are:—

Grave's Disease (Exophthalmic goitre): This condition is very frequently associated with gastro-intestinal symptoms, and during the periods of crisis vomiting or diarrhea, or both, may be severe and intractable. Unfortunately these symptoms occasionally overshadow all others and unless one remembers the possibility, he may overlook the rapid pulse, nervousness, loss of weight and palpable thyroid which should make the diagnosis.

Hypothyroidism, whether it be severe (myxedema) or of only moderate degree may produce a very marked flatulent dyspepsia. Too often we concentrate on this outstanding symptom and overlook the dry skin, sparse hair, sluggish mentality and puffy face that should suggest to us a deficiency of thyroid secretion.

Diabetes Mellitus: It is probably not sufficiently recognized that many cases of diabetic acidosis with impending coma have, in addition to headache and lassitude, epigastric pain and vomiting. H. F. Root has emphasized that the abdominal pain in diabetic coma is general and does not tend to localize in the right lower quadrant. Muscular spasm, however, may be extreme. Recently McKittrick has stressed that a history of malaise, drowsiness, vomiting, plus diffuse abdominal pain associated with widespread tenderness and spasm, is so suggestive of diabetic acidosis without intra-abdominal disease, that operation should not be done unless the abdominal symptoms persist after three or four hours of adequate insulin therapy.

Addison's Disease: This condition notoriously gives rise to anorexia, nausea and vomiting, which are aggravated during the so-called crisis. However, careful physical examination and an appreciation of the asthenia, hypotension, and the pigmentation, which tends to be accentuated on points of pressure and genitalia, should provide the diagnosis.

Anemia. The relation of the anemias to dyspepsia has been dealt with in the preceding paper. However, let us recall again the frequency of loss of appetite, nausea and vomiting in the symptomatology of the anemias, especially of the primary (pernicious) variety.

Tabs: The gastric and intestinal crises of tabs must not be overlooked as a possible cause of abdominal pain and vomiting. They may also be manifested by frequent diarrhea associated with intense pain. The fixed pupils and absent knee and ankle jerks should be valuable diagnostic aids.

Pregnancy; as a cause of nausea and vomiting need only be mentioned.

Nephritis: Acute nephritis may be manifested first by merely anorexia or by nausea and vomiting. The puffy face, slight fever and scanty urine should serve to focus our attention on the kidney.

Metal Poisoning: Poisoning by the heavy metals, particularly lead, is a not infrequent cause of dyspepsia. It may be difficult to recognize. The principal symptoms are anorexia, nausea and vomiting, abdominal pain with constipation or diarrhea, plus a furred tongue and a metallic taste in the mouth. Aids in diagnosis are a history of exposure to the possibility of metal poisoning, and the clinical findings of pallor, blue line on the gum margins and perhaps some degree of peripheral neuritis with muscular paralysis and wrist or toe drop. The blood may show stippling and a secondary anemia.

Angio-Neurotic Edema may at times be confusing when the symptoms of colicky abdominal pain, vomiting, and perhaps diarrhea, may point to an intra-abdominal lesion. The abdominal wall may be tense and tenderness diffuse. At the time of examination there may be no suggestive features, but there may be puffiness of the eyes or lips and a history may be obtained of recurring urticarial and irritable eruptions which may be associated with abdominal symptoms and difficulty in breathing. These important points must be carefully investigated, historically.

The *Abdominal Wall* itself is extremely important as the origin of pain and tenderness. It is evident that quite frequently pain is produced by lesions in this structure. One sees, unfortunately, patients who have undergone surgical procedures for the cure of this type of condition. Whether it is due to neuralgia or a fibrositic change in the muscles or sheaths, is for the present of academic interest. However, in any doubtful case one should always try the effect of having the patient tense the muscles by holding the feet off the table with legs extended. Tenderness on palpation decreases if the lesion is intra-abdominal but is aggravated if in the abdominal parieties.

Herniae in the region of the linea alba should be looked for, as they may cause pain and vague dyspepsia. Ordinary inguinal, femoral or umbilical herniae may do the same. To think of them is usually enough to enable us to exclude them by careful examination.

Emotional Causes: Pain may be caused by emotional instability. Osler has mentioned the difficulty in swallowing (probably because of poor salivary secretion), the sense of weight in the epigastrium and even pain after food, as prominent symptoms of the neurasthenic.

Hysteria is often a source of abdominal discomfort and pain. This was pointed out years ago by Sydenham and recently emphasized again by Pratt of Boston. However, most clinicians feel that it is not wise to attribute a pain to

hysteria until every diagnostic channel has been fully explored. An organic lesion may be the nucleus for the development of a "protective" hysteria. Most of us have, I feel sure, seen cases of obscure abdominal pain and discomfort which were, in despair, labelled neurosis, only to find subsequently some definite organic abdominal disease. The diagnosis of "hysterical" or "neurotic" pain should, I believe, be guarded and not used, as we have a tendency to do, to satisfy our diagnostic ego.

Finally, abdominal pain may be caused by definite organic disease of the brain. This has been pointed out again by Wechsler, recently. Experimental stimulation of various areas of the brain, particularly frontal cortex and hypothalamic region, will produce this symptom. The author even suggests that the abdominal discomfort in hysteria may be due to disturbed cerebral function caused by environmental and emotional stimuli.

There are undoubtedly many other causes of digestive disturbance, such as our increasingly complex way of living, our lack of relaxation, the noise of our environment, our highly refined dietary, the stock market and general economic conditions. However, a few of the important etiological factors have been dealt with briefly.

MANITOBA SANATORIUM TUBERCULOSIS TRAVELLING CLINICS May, 1936.

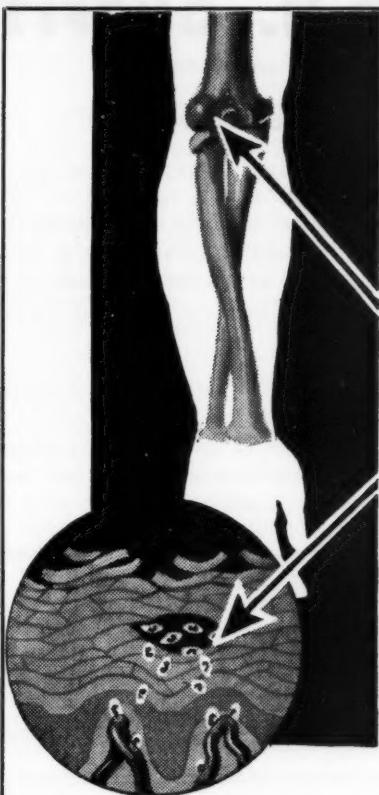
BEAUSEJOUR	May 18—Monday
"	19—Tuesday
SELKIRK	20—Wednesday
"	21—Thursday
"	22—Friday
MORDEN	26—Tuesday
"	27—Wednesday
"	28—Thursday
PLUM COULEE	29—Friday
"	30—Saturday

GOLF AND INFANT FEEDING

It is possible to play over the entire course with a single club and bring in a fine score. But playing with only one club is a handicap. The best scores are made when the player carefully studies each shot, determining in advance how he is going to make it, and selecting from his bag the particular club best adapted to execute that shot.

For many years, Mead Johnson & Company have offered "matched clubs," so to speak, best adapted to meet the individual requirements of the individual baby.

We believe this to be a more intelligent approach than the use of a single "baby food" to meet the many situations presented by many babies. "There is no average baby."—Advt.



Chronic Arthritis

Physicians and surgeons stress the importance of physical treatment in the management of chronic arthritis.

In this branch of therapy Antiphlogistine stands out prominently among the topical applications because of its potentialities for effecting striking amelioration of the arthritic process.

It has an undoubted effect on the local metabolism, increasing the anabolic and catabolic processes and encouraging the absorption of joint effusions and toxic end-products.

It is one of the simplest and yet one of the most effective methods of applying topical heat.

ANTIPHLOGISTINE

Sample on request

THE DENVER CHEMICAL MFG. CO.
153 LAGAUCHETIERE ST., W.
MONTREAL.

MANDELIC ACID B.D.H. OUTFIT



For Treatment
Over a Period of
Fourteen Days

Experience in clinical practice is confirming the original findings ("Lancet," May 4th, 1935, p. 1032) in regard to the value of this form of treatment as a substitute for a ketogenic diet in urinary infections.

By the use of the B.D.H. outfit the administration of Mandelic Acid B.D.H. and the control of the pH of the urine are made so simple that the patient, acting under the physician's instruction, can carry out the whole treatment at his own home.

*Stocks are held by leading druggists throughout the Dominion
and full particulars are obtainable from—*

The British Drug Houses (Canada) Ltd.

Terminal Warehouse

TORONTO 2, ONT.



Mnd/Can/365



COPRON ELIXIR

— LIVER EXTRACT

Liver extract contains a certain factor which is effective in correcting anemia because it is essential to the production of mature red blood corpuscles. This factor also causes a prompt increase in red cells by supplying something essential to their structure.

— IRON

The chief constituent of hemoglobin is iron. Therefore iron is necessary in the treatment of anemias. The reason for the former uncertainty of results is that iron cannot be utilized for hemoglobin formation unless a certain metabolic activator is present.

— COPPER

This element is most effective as a metabolic activator. It has been found that iron and copper should be present in a definite ratio for them to be fully effective in the formation of hemoglobin. This ratio is 1 part copper to 25 parts of iron—the ratio in which they occur in ABBOTT'S COPRON ELIXIR.

ABBOTT LABORATORIES LTD.
MONTREAL - - CANADA

Editorial and Special Articles

EDITORIAL

The Chiropractors' Bill

On March 10th, 1936, a Bill to license chiropractors in the Province of Manitoba, was defeated at second reading in the Legislative Assembly by a vote of thirty to thirteen.

When this bill was prepared most medical practitioners in the Province were of the opinion that the position of the chiropractors was untenable and there was no need to consider the bill seriously. It was clear to all medical men that not only were the chiropractors without proper education in medical subjects and the fundamental sciences, but also that they professed a theory of disease which was obviously ridiculous.

The doctors overlooked the fact that the general public might not be aware of the true status of the chiropractors. The medical men did not know that the chiropractors had carried on an assiduous campaign of publicity, especially among the rural population. The impression had been carefully fostered that the issue was simply a struggle between two equally valuable groups of practitioners, one of which enjoyed a monopoly of medical practice.

It was necessary to inform the public and the members of the legislative assembly of the true position of the unqualified practitioners who were asking for legal recognition. The educational standards required of those who wished to practice the healing arts in this province, were explained along with the liberty of scientific thought and practice allowed to all qualified practitioners.

The lack of proper scientific and medical education and the fantastic hypothesis underlying the practice of chiropractic as explained in the chiropractor's own statements, were also made available to the public and the members of the Legislative Assembly. The danger of licensing practitioners who ridiculed the infective origin of such disease as diphtheria and scarlet fever was emphasized. It was pointed out that this danger was particularly important in the case of hospitals.

The burden of carrying on this work was undertaken by the Legislative Committee of Twelve, with three representatives from each of the College of Physicians and Surgeons, the Faculty of Medicine of the University of Manitoba, the Manitoba Medical Association, and the Winnipeg Medical Society. A great many meetings were held, information gathered, pamphlets and letters prepared. This all entailed a great deal of self-denying labour on the part of the members of the committee. Their efforts were seconded by individual members of the profession particularly in the rural districts, who wrote or interviewed members of the Legislative Assembly. The boards of hospitals throughout the province were naturally aware of the menace to the patients

in their institutions if practitioners who did not believe in the germ theory of disease were licensed. The members of these boards therefore were opposed to the passage of this bill.

Apparently the folly of lowering the educational standard of those licensed to treat the sick was realized by the public, the press, and the members of the Legislative Assembly. The danger to the pupils health if untrained and unscientific practitioners were given a license, was evidently clearly understood. It is worthy of note that the speeches against the bill were all made by non-medical members of the legislature. The result was a verdict based on sound common sense. Manitoba is to be congratulated on the outcome.

The Legislative Committee of Twelve have performed a notable public service in helping to maintain the educational standards required of those who are to be licensed to practice the healing arts in the province of Manitoba. The committee are deserving of the thanks of the medical profession and others engaged in health work, as well as the general public.

—R. B. M.

The Advisory Council of the Manitoba Medical Association

Two years ago the Manitoba Medical Association set up an Advisory Council for the purpose on getting an opinion on questions of general policy in medical matters. The Council was to be purely advisory. It consists of the President of the Manitoba Medical Association, President of the College of Physicians and Surgeons, the Deputy Minister of Health, Dean of the Faculty of Medicine, all ex-officio. The President of the District Medical Society, and the Medical Officer of Health of the district and others may be added if necessary.

In this way in any question of major policy an opinion can be secured from the representatives of the profession dealing with the legal, educational and public health aspects of the problem, as well as a representation of the general body of the profession. Several important questions have been referred to the Advisory Council, including the problem of cancer therapy. The Advisory Council has proved to be a valuable addition to the machinery for carrying on medical work in the Province of Manitoba. So far as we are aware, no other medical organization has a similar body in its organization. One of the difficulties in the past has been that one medical organization might initiate a policy without having available the considered opinion of all the medical organizations, and yet these policies might affect all aspects of medical work. The Advisory Council has done away with this anomaly.

—C. W. MacC.

Executive Meeting

Minutes of a Meeting of the Executive of the Manitoba Medical Association held in the Medical Arts Club Rooms on Thursday, March 26th, 1936, at 6.30 p.m.

Present.

Dr. F. G. McGuinness	Dr. A. S. Kobrinsky
Dr. F. W. Jackson	Dr. F. D. McKenty
Dr. E. S. Moorhead	Dr. W. E. Campbell
Dr. C. W. Burns	Dr. Geo. Clingan
Dr. W. G. Campbell	Dr. J. F. Wood
Dr. J. D. McQueen	Dr. C. W. Wiebe
Dr. D. C. Aikenhead	Dr. G. D. Shortreed
Dr. W. E. R. Coad	Dr. W. S. Peters.

The minutes of the last meeting of the Retiring Executive and Executive-Elect held on Thursday, December 21st, also minutes of special meetings held on December 4th, January 22nd, February 12th, March 6th and March 14th respectively, were read by the Secretary, and approved.

Report of Programme Committee for Annual Meeting.

Dr. C. W. Burns addressed the meeting and gave a brief outline of the scientific programme for the Annual Meeting. He advised there were three men from the country who were willing to give papers, and that the meeting will be held in the Fort Garry Hotel commencing May 14th. Dr. Burns asked for suggestions from the members of the Executive present and welcomed any ideas. The country members felt that, if possible, they would like to have a paper or talk on either obstetrics or skin diseases.

Following discussion it was decided that registration be commenced at 8.30 o'clock, and that a paper be put on from 9.00 to 9.30 a.m. on Skin Diseases.

Moved by Dr. C. W. Wiebe, seconded by Dr. J. F. Wood: That the programme be adopted in this way.
—Carried.

Dr. McGuinness asked that men from the country particularly see that their wives accompany them to the meeting, as the Ladies' Committee were preparing special entertainment on their behalf.

Report from Dr. E. S. Moorhead on Last Meeting of Executive of C.M.A.

Dr. E. S. Moorhead presented a report on the last Executive Meeting of the Canadian Medical Association, copy of which is on file.

Correspondence.

The secretary read a letter from Dr. W. W. Scott, Hazelridge, Manitoba, who has been a member of the Association for many years. Dr. Jackson was instructed to write to Dr. Scott in this connection.

Communication was read from Dr. Moorhead, Chairman of the Committee on Sociology, with reference to having refractions done by oculists in all rural districts.

Following discussion, it was moved by Dr. C. W. Burns, seconded by Dr. D. C. Aikenhead: That this matter be approved of by this Executive and referred back to the Committee on Sociology for their consideration and action.
—Carried.

Communication was read from the Winnipeg Medical Society re. address of Dr. James McKenty on "The Relation of the Profession with Hospitals."

It was moved by Dr. C. W. Burns, seconded by Dr. D. C. Aikenhead: That this communication be referred to the Committee on Resolutions. —Carried.

Communication was read from the Winnipeg Medical Society, under date of March 23rd, advising that they had changed the date of their Annual Meeting to May 8th, so as not to conflict with the Manitoba Medical Association Annual Meeting.

Membership.

Dr. McGuinness addressed the meeting regarding membership, and suggested that a Committee should be formed to go thoroughly into the membership of the Association. Dr. McGuinness felt that with the work that has been done by this Association and its Committees in protecting the interest of the profession, and on account of the additional money procured for them through payment for relief cases, that members who are benefiting from these things should join the Association.

Report of Dr. F. D. McKenty of Committee on Federation.

Dr. McKenty advised that his Committee had not yet had a meeting and that he had only learned today that the Executive might like an interim report, and that what he proposed to state was his own personal opinion.

Dr. McKenty gave a very interesting report and valuable information on different aspects of Federation. He stated that the more this was gone into the more he found there was to do. He gave some interesting statistics on Council Meetings and attendances, and discussed angles regarding the amalgamation of the College of Physicians and Surgeons and the Association.

Discussion followed and the members present asked Dr. McKenty for further information, and it was decided that as this was only an interim report that the final report be brought in at a later date. Dr. McKenty stated that before this could be done it might be advisable to obtain legal opinion.

It was moved by Dr. W. E. Campbell, seconded by Dr. A. S. Kobrinsky: That Dr. McKenty's Committee be asked to consider this question further and make their final report at as early a date as possible, so that it may be considered by the whole Executive at a meeting to be held before the Annual Meeting in May; the Committee report to include a legal opinion if required.

Report of Members of the Association on Committee of Twelve.

Dr. W. E. Campbell reported on the activities of the Committee of Twelve in the absence of Dr. Fahrni, he having been the acting secretary on their Committee during their recent activities. He reviewed the work that had been done by the various members, particularly two or three of them, and it was moved by Dr. D. C. Aikenhead, seconded by Dr. W. E. R. Coad: That the President convey personally to the President of the College of Physicians and Surgeons and to Dr. Fahrni their very deep appreciation of this Committee for their excellent work.
—Carried.

Moved by Dr. A. S. Kobrinsky: That Dr. D. C. Aikenhead be Chairman of a Membership Committee and that Dr. Aikenhead and the President have power to add any names they may deem necessary to this Committee.

Dr. Clingan suggested that the Secretaries of the various district Societies should be forwarded information as to who had not paid their fees.

The meeting then adjourned.

Survey of Illness Amongst Unemployed in the City of Winnipeg

**March 1st, 1934, to February 28th, 1935
inclusive**

Conducted by

**THE DEPARTMENT OF HEALTH AND PUBLIC WELFARE,
PROVINCE OF MANITOBA**
and

**THE COMMITTEE ON SOCIOLOGY OF THE MANITOBA
MEDICAL ASSOCIATION**
with the co-operation of the
WINNIPEG UNEMPLOYED RELIEF COMMISSION

Survey Officer: M. R. ELLIOTT, M.D. (Man.), D.P.H. (Tor.)

FOREWORD

Early in 1934, the City of Winnipeg, through its Unemployment Relief Committee, made an agreement with the doctors of the City, as represented by their Medical Relief Committee, whereby all persons who were in receipt of unemployment relief, might receive medical care from the doctors; the City agreeing to pay the doctors for the work done, under a special schedule of fees. A brief resumé of the workings of the system may be enlightening.

The doctors agreed to accept a reduced schedule of fees which was set out in detail, and which amounted to approximately 50 per cent of regular rates for general practitioners, with the proviso, however, that no one doctor would be entitled to more than One Hundred (\$100.00) dollars per month for such services. Later in the year, a sliding scale which allowed a maximum of One Hundred and Fifty (\$150.00) dollars per month, in proportion to the amount of work done, was adopted. Slightly higher rates of pay for specialists' services were allowed. To this arrangement some 220 doctors agreed. All recipients of unemployment relief, when in need of medical services, had the privilege of choosing any doctor who had signed the agreement, but must first receive a permit for this service from the Relief Medical Officer employed by the City. Provision was made, however, allowing for the treatment of any emergency case without such permit. The doctors in turn were obliged to submit a medical report on every patient seen, to be followed up by a progress, or discharge report, at frequent intervals. The accumulated accounts were submitted once monthly to the City, and these audited and passed for payment.

The circumstances outlined above made possible the accumulation of records which were rather unique in Canada. Every illness occurring among those on relief was recorded in detail, and a vast amount of useful knowledge, which has hitherto been unobtainable, was made possible. At the suggestion of the Provincial Department of Health and Public Welfare, and with the full co-operation of the Committee on Sociology of

the Manitoba Medical Association, and the Unemployment Relief Committee, a Survey was made of the Morbidity, and Costs of Sickness among This Group of People for One Year. This paper is a summary of the findings resulting from that study in reference to Morbidity.

SCOPE OF STUDY

The material was gathered directly from the Physician's Medical Report Forms, which are on file at the Relief Office of the City of Winnipeg. All data relative to hospitalized cases were obtained by direct consultation with the hospital files of the various City Hospitals, of which there are eight, not including the City Isolation Hospital. (No records from this latter Hospital are included in this summary).

A period of one calendar year—from March 1st, 1934, to February 28th, 1935—is included in the study. During this period there occurred a considerable variation in the number of people receiving relief. The peaks ranged from 38,558 high to 29,988 low; with a monthly average of all classes for the year of 33,731. The number of families varied from 9,535 to 7,447, with an average for the year of 8,464. Thus, the average number of persons per family was four.

An analysis of these families by Nationality, taken at the end of the year under survey, was as follows:

Canadian 32.3%, English 13.8%, Polish 8.8%, Ukrainian 8.7%, Scotch 6.7%, Austrian 4.7%, German 4.3%, Russian 4.3%, Irish 2.7%, Hebrew 2.6%, American 1.7%, Swedish 1.3%, Hungarian 1.0%, Roumanian 0.9%, Norwegian 0.7%, Italian 0.6%.

And in the order named: Danish 46, Welsh 43, Czecho-Slovakian 43, Icelandic 39, Dutch 33, French 16, Jugo-Slavian 15, Swiss 15, Belgian 12, Finnish 9, Chinese 8, Lithuanian 7, Latvian 6, Assyrian 6, Australian 5, Serbo-Croatian 3, Armenian 2, Greek 1, Japanese 1, Sundry 31.

Thus an extremely cosmopolitan population is represented — possibly more so than might be found in the vast majority of Canadian cities. A large majority of these families have for many years previous to the depression, been self-sustaining, respectable citizens of the average middle class. Many had held clerical positions and hold first-class qualifications. Still others had been skilled mechanics in various trades, while the list also includes a sprinkling of professional men.

These people were not confined to any one section of the City, but were living in practically every residential section. Thus, no single factor of place of residence or immediate sanitary surroundings, can enter into this discussion. Practically 100 percent of these people were living in houses equipped with water and sewerage systems, electric lights, and many had gas or electric cooking facilities. Therefore, the group, as a whole, may be taken to be fairly representa-

tive of a cross-section of the City; always, however, bearing in mind that these people were forced to live on a stipulated amount for food, clothing, fuel and shelter, and in many cases in greatly reduced circumstances to that to which they had been accustomed. The diet, and other allowances, however, as provided by the City, were entirely adequate to supply all the necessary food requirements for every member of the family, and to clothe and shelter them in a reasonable degree of comfort. It is not justifiable to suppose that any excess illness occurred among this group which could be traced to the reduced circumstances of their living, or surroundings.

The result of this survey is not, of course, a complete record of all the ill-health prevalent in this population during the period of observation. As a natural course, there were many minor illnesses of such a trivial nature that no medical advice or treatment was obtained. It must be obvious from clinical experience, as well as from considerations of a practical kind, that the full extent of ill-health and its specific nature cannot be ascertained by any one method. Our study, however, forms as accurate an account as is possible, of the illnesses, their number, nature, and extent, for which a doctor was called in attendance. The question may properly be asked,—exactly what is meant by an "illness"; and it is hard to answer with a precise definition. In this study, the records of illness are those of attacks rather than *illness* in the sense of *ill-health*. The records of some persons afflicted with some chronic condition will show that they visited more than one doctor for the same complaints, although this practice was discouraged as much as possible. This, then, would show in our records as two or more separate attacks. Fortunately, these instances are rare. Also, of those suffering from other chronic conditions, only those who suffered ill effects of this condition *during the period* were recorded having the condition. It is undoubtedly true that had the study continued for a longer period than twelve months, more conditions of this nature would have been brought to light, since the factor of time is a fundamental one in recording and interpreting morbidity.

Perhaps it is sufficient to simply bear in mind that the chief aim of this study was a record of illnesses of sufficient nature to warrant medical attention, which were experienced by a population group composed of persons of all ages, both sexes, and in no remarkable respect unusual. This record is regarded as desirable in order to give a picture of sickness *incidence* in a general population group over a sufficiently long period of time to distinguish it from sickness *prevalence* as ascertained at a given instant of time by the cross section method. A further object was to record the cost of complete medical attendance upon this population group for one year,—at the reduced rate of fees allowed,—as a basis for future estimates of cost of similar services.

CLASSIFICATION OF ILLNESS ACCORDING TO CAUSE

When the stage of classifying illness according to cause was reached in this study, it was found difficult to select the primary cause of illness, when several possible causes were recorded. In our records, it happened in the case of many individuals there was filed a series of reports covering a considerable period of time, and this entire sickness history had to be considered in determining the primary cause of a specific illness. Many report forms listed a series of symptoms with no definite primary cause or diagnosis made. It seemed to us that the primary purpose to be kept in mind was the *immediate cause of each specific illness*. The term "illness" was rigidly interpreted as a continuous period of sickness, regardless of complications, even though in some instances the coincident occurrence of two or more conditions seemed to be a matter of chance. Thus, a person who had Grippe, Measles and Chickenpox within one continuous period, without a definite statement from the doctor that some time intervened between the separate conditions, would be credited with only *one* illness. A person with several chronic conditions contributory to a more or less continuous condition of illness, was counted as sick only once, and only one condition was considered as the primary cause. For instance; many combinations of respiratory diseases were recorded, such as "Cold and Bronchitis, Bronchitis and Tonsillitis, Tonsillitis and Influenza." All were counted as *one* illness and that condition, which from the available information was chiefly responsible for the particular illness, was considered the sole cause. In many cases, in which more than one cause of an illness was recorded, the following general rules were followed in selecting the primary cause:

(a) The first cause, in order of occurrence, applied largely to acute conditions with common complications, such as Measles and Otitis Media; Scarlet Fever and Nephritis, etc.

(b) Acute conditions ordinarily were given preference over an attack of some chronic condition, thus in cases of Grippe and chronic rheumatism, the Grippe was considered primary.

(c) The condition or disease "most specifically associated with the period of sickness" was preferred over a minor condition which preceded or accompanied it. When it was difficult to determine the factual basis, the more serious condition was chosen.

(d) The *more specific* cause was given preference over a statement of a symptom.

The form of the classification used was the International List of Causes of Death, 1931 edition. Some departures, apparent to anyone more interested in the cause of illness, than in a mere scheme of classification, were made from it. It was not considered practical to prepare a long detailed statement with each cause listed separately, but the various groups of related diseases

are grouped into logical classes, and in many cases, one group of diseases will be made up of two, or several, closely allied diseases.

For purposes which will be apparent when we come to the study of the costs of illness, all cases reported were divided into three main divisions: Medical, Surgical and Obstetrical. While this is an entirely arbitrary division, many so-called medical cases later requiring surgery; many obstetrical cases also at times requiring operative treatment; and many surgical cases at times requiring no operative measures at all,—yet an attempt has been made to avoid any overlapping of individual cases, and in only very rare exceptions has this occurred.

The basic data, having regard to incidence of illness, classified according to cause, is presented in Table I.

Here is shown the number of illnesses recorded

An illness rate of slightly more than .4 per person per year is indicated, at 1.8 per family. This rate is naturally much below what a record of *all attacks* would show as has been stated, this is

during the twelve months, classified according to the sole or primary cause. The principle specific causes are shown, and also the totals for groups of diseases according to the International List. The second column shows the rate of incidence per 1,000 population of each classification. In the last two columns are shown the number of days' illness ascribed to the specific causes, and also the average days' illness per disease. In several chronic conditions this information was not accurately obtainable, and, of course, these cases must be considered when making totals. As the only means of recording days' illness was from the physicians' reports, it follows naturally that many mild and chronic conditions were of much longer duration than shown. Perhaps a more accurate statement would be that the last two columns show the number of days during which the patient was under actual medical care, due to these specific causes.

a record of illnesses of a sufficient severity to require medical care. The general picture of illness afforded by this table is shown in graphic form in Figure I.

TABLE I.

Incidence of Disease According to Cause

MEDICAL DISEASE	No. of Cases	Incidence per 1,000 Population	Total Days' Illness	Average Days' Illness
TOTAL RESPIRATORY DISEASES	2,957	87.7	30,108	10.3
1. Influenza and Grippe - - - - -	592	17.6	4,923	8.3
2. Pneumonia - - - - -	199	5.9	2,368	12.4
3. Pleurisy - - - - -	82	2.4	1,733	21.2
4. Diseases of Pharynx - - - - -	1,008	29.8	6,583	6.5
(a) Tonsillitis - - - - -	572	16.9	4,268	7.4
(b) Quinsy - - - - -	53	1.6	445	8.5
(c) Sore Throat - - - - -	291	8.9	900	3.1
(d) Other Dis. of Pharynx - - - - -	92	2.7	970	10.5
5. Diseases of Larynx - - - - -	96	2.9	1,166	11.9
(a) Laryngitis - - - - -	74	2.2	786	10.5
(b) Croup - - - - -	24	0.7	380	15.8
6. Hay Fever and Asthma - - - - -	48	1.4	1,024	21.3
7. Pulmonary Tuberculosis - - - - -	39	1.2	—	—
8. Other Diseases of Resp. System - - - - -	891	26.4	12,408	13.9
EPIDEMIC, ENDEMIC and INFECTIONS	882	26.2	10,606	13.2
1. Typhoid Fever - - - - -	2	0.06	110	55.0
2. Measles - - - - -	564	16.5	5,600	10.0
3. Scarlet Fever - - - - -	63	1.9	2,030	32.2
4. Whooping Cough - - - - -	49	1.5	1,220	24.9
5. Diphtheria - - - - -	50	1.5	579	11.5
6. Chicken Pox - - - - -	62	1.8	731	11.8
7. Tuberculosis - Non. Pulm - - - - -	17	0.5	—	—
8. Venereal Disease - - - - -	51	1.5	—	—
9. Other Dis. of this Group - - - - -	24	0.7	336	14.0
GENERAL DISEASES	359	10.7	8,166	25.5
1. Cancer - All Forms - - - - -	39	1.2	—	—
2. Rheumatism - Acute and Chronic - - - - -	133	3.9	2,733	20.6
3. Diabetes - - - - -	37	1.1	1,265	34.9
4. Goitre - - - - -	103	3.1	2,278	22.1
5. Other General Diseases - - - - -	47	1.4	1,870	39.7

	No. of Cases	Incidence per 1,000 Population	Total Days' Illness	Average Days' Illness
DISEASES OF NERVOUS SYSTEM	656	19.5	9,463	16.1
1. Cerebral Haem. and Apoplexy	- - - - -	19	0.5	---
2. Paralysis	- - - - -	9	0.26	---
3. Epilepsy	- - - - -	34	1.0	---
4. Chorea	- - - - -	13	0.4	---
5. Neuralgia	- - - - -	136	4.0	1,720
6. Neuritis and Sciatica	- - - - -	186	5.5	3,422
7. Headache	- - - - -	67	2.0	485
8. Mental Dis. and Neurasthenia	- - - - -	148	4.5	2,899
9. Other Nervous Diseases	- - - - -	44	1.3	---
DISEASES OF EYES and ADNEXA	229	6.8	3,132	13.5
1. Blepharitis	- - - - -	19	0.6	452
2. Trachoma	- - - - -	2	0.06	90
3. Epiphora	- - - - -	1	0.03	30
4. Optic Neuritis	- - - - -	4	0.12	80
5. Glaucoma	- - - - -	5	0.15	65
6. Corneal Ulcer	- - - - -	16	0.5	484
7. Chalazion	- - - - -	14	0.4	126
8. Iritis	- - - - -	9	0.3	122
9. Daeryocystitis	- - - - -	2	0.06	30
10. Keratitis	- - - - -	5	0.15	140
11. Cataract	- - - - -	6	0.18	---
12. Conjunctivitis	- - - - -	146	4.3	1,013
DISEASES OF EAR and MASTOID	439	13.0	3,918	8.9
1. Otitis Media	- - - - -	376	11.1	3,469
2. Mastoiditis	- - - - -	15	0.4	249
3. Other Dis. of Ear (Not Deafness)	- - - - -	48	1.4	200
DISEASES OF CIRCULATORY SYSTEM	767	22.8	10,181	20.6
1. Disease of Heart	- - - - -	174	5.1	---
2. Arterio Sclerosis	- - - - -	9	0.3	---
3. Haemorrhoids	- - - - -	78	2.3	1,175
4. Varicose Veins	- - - - -	55	1.6	1,370
5. High Blood Pressure	- - - - -	91	2.7	---
6. Adenitis	- - - - -	127	3.8	1,537
7. Other Dis. - incl. Anaemia	- - - - -	233	6.9	6,063
DISEASES AND DISORDERS OF DIGESTIVE SYSTEM	1,797	53.5	19,105	11.7
1. Ulcers of Stomach and Duodenum	- - - - -	165	4.9	4,520
2. Indigestion and Gastritis	- - - - -	486	14.4	3,934
3. Stomach Trouble (Unqualified)	- - - - -	156	4.6	1,396
4. Diarrhoea	- - - - -	153	4.5	1,232
5. Appendicitis	- - - - -	191	5.7	1,384
6. Hernia	- - - - -	74	2.1	---
7. Intest. Disorders	Constip Enteritis Colitis } - - - - -	277	8.2	2,839
8. Biliary Calculi	- - - - -	64	1.9	878
9. Cholecystitis	- - - - -	130	3.8	1,622
10. Jaundice	- - - - -	18	0.6	219
11. Other Dis. of Liver	- - - - -	6	0.18	300
12. Malnutrition	- - - - -	27	0.8	---
13. Other Dis. of Digest. Syst.	- - - - -	50	1.5	1,078
DISEASES OF TEETH and GUMS	131	3.9	1,121	8.5
DISEASES OF KIDNEY and ADNEXA	371	10.7	6,242	16.8
1. Nephritis	- - - - -	101	3.0	1,597
2. Cystitis and Other Bladder Dis.	- - - - -	134	4.0	2,050
3. Other Dis. in This Group	- - - - -	136	4.0	2,595

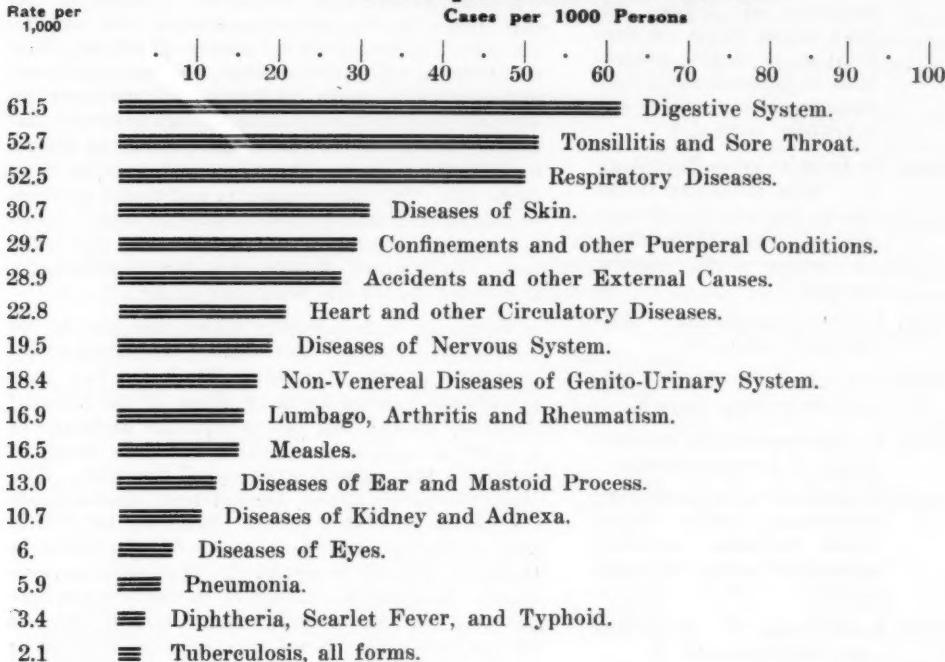
	No. of Cases	Incidence per 1,000 Population	Total Days' Illness	Average Days' Illness
NON. VEN. DISEASES OF G. U. SYSTEM	972	27.5	20,088	21.6
1. Disease of Male Organs - - - - -	84	2.5	914	10.9
2. Disease of Female Organs - - - - -	428	12.7	10,495	21.9
(a) Chronic Salpingitis - - - - -	61	1.8	1,660	27.2
(b) Endometritis - - - - -	60	1.8	1,565	25.6
(c) Acute Salpingitis - - - - -	57	1.7	891	15.6
(d) Prolapsis Uteri - - - - -	11	0.3	260	23.7
(e) Vaginitis - - - - -	36	1.1	790	21.9
(f) Ovaritis - - - - -	16	0.4	276	17.2
(g) Pelvic Inflammation - - - - -	74	2.1	658	22.3
(h) Fibroids - - - - -	24	0.7	605	25.2
(i) Ovarian Cyst - - - - -	19	0.6	400	22.2
(j) Endocervicitis - - - - -	75	2.1	2,390	31.8
3. Menstruation - - - - -	308	9.1	5,405	17.7
4. Menopause - - - - -	107	3.2	3,274	30.6
DISEASE OF PUPERAL STATE	89	2.6	1,250	14.0
TOXAEMIAS OF PREGNANCY	83	2.5	849	10.1
CONGENITAL, MALFORMATION and INFANCY	102	3.0	868	8.5
DISEASE OF SKIN and CELL	1,036	30.7	13,489	13.0
1. Furunculosis - - - - -	92	2.7	918	9.9
2. Abscess and Infection - - - - -	156	4.6	2,343	15.2
3. Scabies and Itch - - - - -	73	2.2	789	10.8
4. Impetigo Contagiosa - - - - -	101	3.0	1,057	10.4
5. Other and Unqualified Conditions - - - - -	614	18.0	8,291	13.5
DISEASE OF BONES and LOCOMOTION	438	13.0	6,849	15.6
1. Lumbago, Myalgia and Myositis - - - - -	177	5.2	2,822	15.9
2. Arthritis - - - - -	239	7.1	3,537	14.9
3. Other Diseases of Bones and Joints - - - - -	22	0.6	490	24.3
SENLITY	31	0.9	---	---
EXTERNAL CAUSES	844	25.0	9,385	11.2
1. Poisonings - - - - -	20	0.6	201	10.0
2. Minor Injuries - - - - -	824	24.6	9,184	11.2
NOT OTHERWISE CLASSIFIED	308	9.1	2,593	8.4
1. Fever of Unknown Cause - - - - -	6	0.18	29	4.5
2. Fainting and Dizziness - - - - -	33	0.9	300	9.0
3. Nasal Polypi - - - - -	18	0.5	255	14.2
4. Empyema - - - - -	1	0.03	30	30.0
5. Non-Malig. Tumors - - - - -	14	0.5	331	23.6
6. Nasal Ulcers - - - - -	5	0.15	100	20.0
7. Sterility - - - - -	1	0.03	---	---
8. Gangrene - - - - -	1	0.03	---	---
9. Narcolepsy - - - - -	1	0.03	---	---
10. Bursitis - - - - -	16	0.5	324	20.2
11. Serum Sickness - - - - -	2	0.06	15	7.5
12. Referred for Refraction - - - - -	93	2.7	---	---
13. " " Examination - - - - -	21	0.6	---	---
14. " " Cystoscopy - - - - -	5	0.15	---	---
MATERNITY CASES				
TOTAL CASES	830	34.6		
Abortions—	137	4.0		
(a) At Home - - - - -	72	2.1		
(b) At Hospital - - - - -	65	1.9		
Full Term—	693	20.6		
(a) At Home - - - - -	78	2.3		
(b) At Hospital - - - - -	615	18.2		

SURGICAL CASES	No. of Cases	Population Incidence per 1,000
TOTAL RESPIRATORY	- - - - -	2
1. Empyema - - - - -	1	0.03
2. Bronchoscopy - - - - -	1	0.03
EYE, EAR, NOSE and THROAT	- - - - -	708
1. Antrum Disease - - - - -	6	0.18
2. Otitis Media - - - - -	10	0.3
3. Testoid - - - - -	17	0.5
4. Eye Operations - - - - -	15	0.5
5. Tonsillectomy - - - - -	660	19.6
GENERAL DISEASES	- - - - -	36
1. Diabetic Gangrene - - - - -	2	0.06
2. Goitre - - - - -	22	0.6
3. T. B. Glands and Adenitis - - - - -	12	0.4
CIRCULATORY SYSTEM	- - - - -	16
1. Haemorrhoids - - - - -	16	0.5
DIGESTIVE SYSTEM	- - - - -	270
1. Gastric Ulcer - - - - -	7	0.19
2. Appendicitis - - - - -	185	5.5
3. Rectal Fissure and Abscess - - - - -	10	0.3
4. Intussusception - - - - -	5	0.15
5. G. B. Disease - - - - -	31	0.9
6. Bowel Obstruction - - - - -	5	0.15
7. Hernia - - - - -	25	0.7
8. Dis. of Liver - - - - -	2	0.06
GENITO-URINARY SYSTEM	- - - - -	21
1. Nephritic Abscess - - - - -	2	0.06
2. Stone in Bladder - - - - -	1	0.03
3. Urethral Carbuncle - - - - -	1	0.03
4. Renal Calculi - - - - -	1	0.03
5. Papileoma of Bladder - - - - -	3	0.09
6. T. B. Kidney - - - - -	2	0.06
7. Prostate - - - - -	7	0.2
8. Hydrocele - - - - -	4	0.12
FEMALE GENITAL ORGANS	- - - - -	73
1. Fibroids, etc. - - - - -	22	0.6
2. Pelvic Cellulitis - - - - -	9	0.3
3. Ovarian Cyst - - - - -	15	0.5
4. Salpingitis - - - - -	12	0.4
5. Ectopic Pregnancy - - - - -	11	0.4
6. Caesarian Section - - - - -	2	0.06
7. Mastitis - - - - -	1	0.03
8. Perineal Tear - - - - -	1	0.03
BONES and MUSCLES	- - - - -	15
NEW GROWTHS	- - - - -	23
MINOR INJURIES	- - - - -	23
MINOR OPERATIONS	- - - - -	88
FRACTURES	- - - - -	120
SPRAINS	- - - - -	4
DISLOCATIONS	- - - - -	6
HARE LIP and CLEFT PALATE	- - - - -	4
		0.12

The relative importance from the point of incidence, not severity as measured by duration, incapacitation, or fatality, or by other means, of the principal diseases is indicated in Figure One in such a way as to need no detailed comment. It may be somewhat surprising, however, that Tuberculosis, Cancer, Diseases of the Heart, Kidneys, etc., upon which so much emphasis is

placed in Public Health work occupy such a low position in the list of diseases which cause illness. It is evident that as causes of *illness*, in a *general* group (a group that has not been considered hertofores to the same extent as a special group of persons) these diseases are actually far less frequent than the ailments which most of us experience.

FIGURE ONE Principal Causes of Illness



The causes of illness, as presented in Table I, present an aspect quite different from that presented by the causes of mortality, as we now record and classify mortality. Of the total illnesses observed, we find the proportional distribution according to broad groups of causes in Table II.

TABLE II.
GENERAL DISEASE GROUPS

GENERAL DISEASE GROUPS	Per Cent of Total Illnesses
Respiratory	24.6
Epidemic, Endemic and Infectious	5.9
General	2.6
Nervous System	3.7
Eye and Adnexa	1.6
Ear and Mastoid Process	4.4
Heart and Circulatory System	5.3
Digestive	14.1
Teeth and Gums	0.9
Kidneys and Adnexa	2.6
Genito Urinary (non-venereal)	4.3
Confinements and Abortions	6.2
Puerperal and Menstrual	3.4
Skin	7.0
Bones and Organs of Locomotion	2.9
Accidents and External Causes	7.5
Other	1.0

An accurate comparison of the above figures with the mortality rates for the same class of population is not possible owing to lack of available statistics. However, the mortality figures for the Province of Manitoba, published in 1935, may serve as a reasonable basis as our group under study is a fairly representative one. The mortality rates show that 14.3% of all deaths were caused by Heart Diseases, while Cancer accounted for 12.9%, Respiratory Diseases for 11.8% and Tuberculosis for 7.6%. As compared with the corresponding percentages of total illnesses due to these diseases, the increasing significance of the unsuitability of mortality statistics as any indication of the cause of morbidity is very apparent. This comparison is shown in Figure I.

During the course of the survey certain information became available in reference to Pathological reports on tissues removed at operations. These are of interest and indicate, we think, that due consideration, by consultation, etc., was given before an operation was performed. Table III. shows a tabulation of the available data.

TABLE III.

SUMMARY OF PATHOLOGICAL REPORTS

A total of 120 pathological reports received from the hospitals, made up as follows:

Appendix - Total 94—Acute 42, Chronic Catarhal 36, no microscopic evidence of Inflamm. 14, very slight grade of congestion 1, slight congestion of subperitoneal connective tissue near tip, otherwise normal 1.

Gall Bladder - Total 8—Definite gross Pathology 6: "Mild Muscular thickening, Normal Vol. no calculi" 1: Some Hyperæmia of deeper coats, mucosa normal 1.

Stomach - - Total 1—Fibro-Carcinoma. Malignancy Grade 2.

Goitre - - Total 3—Colloid 1: Graves' disease in resting stage 2.

Breast - - Total 1—Carcinoma with involvement of Lymph glands.

Ovary - - Total 5—Definite gross pathology 4: Ovary shows usual small follicular cysts; otherwise normal throughout 1.

Uterus - - Total 4—Fibroids 3: Hypertrophic Endometritis 1.

Tubes - - Total 5—Acute Salpingitis 2: Chronic Salpingitis 2: Tubo-Ovarian Abscess 1.

The information submitted in this preliminary report is not by any means to be considered complete and indicative of all the illness prevalent in a given population over any period of time. As there was a quota system in operation limiting each doctor to \$100.00 worth of work in a month, as soon as the doctor reached this amount he continued to do the work, but probably did not send in any form. Again some few men who were not on the panel for doing relief work, no doubt looked after some of their old patients now on relief and did not make any charge to the city for the work done, and as a result no completed medical forms would be available.

However, all together probably 90 to 95 per cent of the medical work done amongst this group is accounted for and we submit this preliminary report in the hope that it will be of interest and use to members of the profession.

COST OF MEDICAL SERVICES FOR PATIENTS ON RELIEF

The report of the second year's operation of the Medical Relief plan has now been issued by the Unemployment Relief Department and is shown below and for your convenience it is published alongside similar statistics for the previous year.

Several points must be noted. In spite of the care taken to control expenditures, the cost to the city has increased by nearly \$8,000.00. The numbers on relief are smaller, the cost per head per annum is much greater, and the average amount paid to each doctor is also greater. Increases which for the individual patient or doctor seem trifling, can in the aggregate amount to a large sum. This also applies to additional services or increased remuneration to practitioners. There is a real and a relative increase in house and office calls. It is gratifying to note that the increase in hospitalisation has been very slight.

There are a few points which are worthy of your consideration. The service is controlled by members of the medical profession. You may not always agree with the findings of the Medical Advisory Board, but you accept the decisions in a spirit of co-operation which has done much to facilitate the smooth working of the plan. The Unemployment Relief Department also accepts the decisions of this Board. The City of Winnipeg is paying the whole cost. In the cities in Ontario, this cost is met by the provincial government. In most of the cities in the west where payment for medical relief is in force, the doctors do not receive as liberal treatment as that given by the City of Winnipeg and much friction results. With all its defects, it appears to function more smoothly than the plans in other cities. For financial reasons it would be impossible at present to provide a medical service entirely satisfactory to patients and doctors.

It will be appreciated that a business of the magnitude of medical relief cannot be carried on without rules and regulations. We find them irksome, especially because most of us have had no business training. These are not rules imposed upon us by the Unemployment Relief Department; most of them were prepared by the medical profession, discussed with the Unemployment Relief Department, amended where necessary, and accepted by both parties. Some medical practitioners occasionally do not adhere strictly to the rules and regulations which have been agreed upon. A few ignore them so frequently that the Unemployment Relief Department believe that the omissions are due to avoidable carelessness, rather than to unforeseen circumstances surrounding individual cases. If the Unemployment Relief Department decided to apply the rules rigidly, we, members of the medical profession, would have no defence, but it would cause all of us inconvenience, because we cannot always order our

daily work as smoothly as the business man. The principal criticism from the Unemployment Relief Department is in the matter of permits to see the doctors. Except in cases of real emergency there is no reason why patients cannot find time to obtain a permit from the Unemployment Relief Department. To expect payment for office consultations, where no permit has been produced, is inexcusable. In the case of many house visits, a permit could easily have been obtained. A few doctors ignore the regulation that accounts must be furnished between the first and fifth of the month. The medical service for citizens in receipt of Unemployment relief funds cannot be carried on if the medical profession is not willing to adapt its professional work to an agreed system. We have in Manitoba the best medical service of this type in Canada and it would be unfortunate if it failed to function as the result of the lack of

co-operation of a few individual members of our profession.

Although there have been difficulties, patients on relief have been provided with a medical service. It is recognized by everyone who is familiar with the facts, that the scale of fees does not in any case constitute an adequate return for the professional work done by the doctors, but it does repay them for the extra expense entailed in carrying on the relief work.

On behalf of the Committee on Sociology and the Unemployment Relief Department, I thank the doctors of Greater Winnipeg for the co-operation and the assistance they have given during the past two years.

COMMITTEE ON SOCIOLOGY,
Manitoba Medical Association,
E. S. Moorhead, chairman.

City of Winnipeg—Unemployment Relief Department—Medical Section

COMPARATIVE SUMMARY OF MEDICAL CHARGES FOR SERVICES TO PATIENTS ON RELIEF For the Years March 1st, 1934, to February 28th, 1935, and March 1st, 1935, to February 29th, 1936.

MARCH 1st, 1934, to FEBRUARY 28th, 1935.				MARCH 1st, 1935 to FEBRUARY 29th, 1936.			
	Total for Year	%	Average Mth. over a 12- Month Period	Total for Year	%	Average Mth. over a 12- Month Period	
	Number	Cost	Number	Cost	Number	Cost	
Calls:							
House	15,987	\$ 23,992.75	1,332	\$1,999.40	19,721	\$ 29,725.00	
Office	22,265	22,448.25	1,855	1,870.69	26,667	27,059.00	
Hospital	8,065	5,185.70	50	432.14	7,889	3,984.00	
	672				53		
					657		
						332.00	
Operations:							
Major	519	19,533.00	43	1,627.73	581	14,640.00	
Minor	920	7,580.73	77	631.73	1,204	6,981.30	
T. & A.	727	10,852.50	61	904.38	628	9,078.00	
Fractures	33	671.66	37	167.91	178	3,544.32	
			8		30		
					15		
						295.36	
Maternity:							
Hospital	702	6,994.75	59	582.90	728	7,290.00	
House	137	2,600.00	9	216.67	145	2,890.00	
			11		9		
					12		
						607.50	
						240.83	
Sundries:							
Special Examinations	243	1,198.50	20	99.88	292	1,493.00	
X-Rays	193	1,677.33	16	139.77	246	2,169.00	
Anaesthetics	234	825.58	20	68.80	425	1,576.00	
Dental	1	1.25					
Consultations	266	792.00	22	66.00	376	1,130.00	
Radium - Rental	—	—	—	—	14	475.00	
Radium - Treatment	—	—	4	—	9	145.00	
					6		
					1		
						12.08	
Payments re Accounts in excess of \$150.00	293.00 *		146.50		2,212.90		
					2		
						184.41	
Gross Total	\$104,647.00		\$8,954.50		\$114,392.52		
Net Total	93,890.89		7,824.24		101,543.04		
Number Doctors Rendered							
Accounts	2,590		216		2,740		
Net Average Cost per Doctor	434.16		\$36.18		\$444.43		
Cases Reported Hospitalized	2,029		169		2,060		
Average Number of People on Relief per Month			34,040			31,497	
Actual Gross Cost per Average Person for 12 Months			\$3.07			\$3.63	
Actual Net Cost per Average Person for 12 Months			\$2.76			\$3.22	

* Two Months

The net total is the gross total less the amounts earned by doctors in excess of \$100 per month, but not paid.

In Treating Syphilis

The accepted rule is to use an Arsphenamine compound as the spearhead of your attack.

In those cases where the intravenous route is impracticable, e.g., small and obliterated veins, infants and children, etc., Sulpharsphenamine is indicated.

DISULPHARSAN

BRAND

Sulpharsphenamine is manufactured by the Canadian suppliers of the Arsphenamines since 1915.

Its Spirocheticidal power is high. "Sulpharsphenamine is the arsenic of choice in infants." Moore.

SYNTHETIC DRUG CO., LTD.

243 COLLEGE STREET TORONTO

ROBOLEINE

"The Perfect Food"—B.M.J.

This Tonic Food is a rich source of vitamins A, B, C and D, and is of delicious flavor.

FORMULA:

Red Bone Marrow
Egg Yolk
Lemon Juice (Neutralized)
Cream of Malt
Vitad (The vitamin-containing fraction of Cod Liver Oil)

Roboleine is a potent reconstructive tonic of particular value in anæmic and nervous children and adults.

•
NEW LOW PRICES

12 oz. jars \$1.25 36 oz. jars \$3.35

•
OPPENHEIMER SON & CO.

LIMITED

LONDON - ENGLAND

Samples and Literature upon request to

VAN ZANT & COMPANY
357 COLLEGE ST. - TORONTO

The Manitoba Medical Association Review

Formerly the Bulletin of the Manitoba Medical Association

ESTABLISHED 1921

WINNIPEG, MAY, 1936

Published Monthly by the

MANITOBA MEDICAL ASSOCIATION

Editorial Office

101 MEDICAL ARTS BUILDING, WINNIPEG

Editor

C. W. MACCHARLES, M.D. (MAN.)

Advisory Editor

Ross B. MITCHELL, B.A., M.D., C.M. (MAN.), F.R.C.P. (C.)

Business Manager

J. GORDON WHITLEY

Annual Subscription - \$2.00

Editorial or other opinion expressed in this Review is not necessarily sanctioned by the Manitoba Medical Association.

[COPYRIGHT]

"FISHERMADE"

Model 8147

Sacro-Iliac and Body Support
The rigidity is relieved over diaphragm by an elastic panel.
The lower draw strap effectively binds the Sacro-iliac joint.



Our New 1936

Catalogue will be off the Press early in May; copy will be sent on request

Fisher & Burpe Ltd.

Illustrating Model 8147

Department "O"

219 Kennedy St.,
Winnipeg — Man.

Made in Our Factory
in Winnipeg

Department of Health and Public Welfare

NEWS ITEMS

TYPHOID FEVER

During January, February, March and the first fourteen days of April, 1936, the cases of typhoid fever reported in this province have been more numerous than usual for this period of the year. Although the number of cases reported during 1935 was the lowest on record for some time, there is no definite trend to a lower incidence of this disease. These cases have also been associated with a fairly high death rate, and last year's case fatality rate of 14.6 per cent was the highest noted in this province for some time. Among the 41 cases reported so far this year there have already been five known deaths, so that it would appear that the typhoid situation is still to be considered a problem.

The following table shows the reported cases and deaths from 1930 to 1935 inclusive:

TYPHOID FEVER (Manitoba), 1930-1935

Cases, Deaths and Case Fatality Rate

Year	Cases	Deaths	Case Fatality Rate
1930	87	12	13.7
1931	149	14	9.4
1932	129	14	10.9
1933	126	16	12.6
1934	89	13	14.6
1935	81	11	13.6

The reports received by this department from the investigation of these cases reveals a lack of proper sanitation, which, in considering that typhoid fever is a filth borne disease, probably has some bearing on the source of infection and the probable reason for spread of the disease. Although no attempt is made to draw any conclusion from these reports, the following extracts are of interest:

- Case No. 1. "Drinking water reported as from the Assiniboine River."
- Case No. 2. "Drinking water reported as from the Assiniboine River "(Melted Ice.)"
- Case No. 3. Ditto Ditto
- Case No. 4. "Drinking water reported as from the Assiniboine River."
- Case No. 5. "Cut ice from Assiniboine River and melted to drink."
- Case No. 6. "Drinking water from Assiniboine River. Were ejected from last farm for being so unclean."
- Case No. 7. "Use River for drinking water."
- Case No. 8. "River water."
- Case No. 9. "River water."
- Case No. 10. "River water."
- Case No. 11. "River water. Started drinking river water just lately."
- Case No. 12. "Was visiting when melted ice from the Assiniboine was used for drinking."
- Case No. 13. "Using river water—getting it through a hole in the ice."
- Case No. 14. In a household where "sanitary conditions were much above the average" the source of infection was not definitely established, but during the early stage of the sickness, before typhoid was suspected "the body wastes from the patient were thrown out in the snow." Two secondary cases developed in this household.

Case No. 15. In another case the household sanitary conveniences were reported as the pail type and "emptied about 50 yards from the house."

Case No. 16. Three cases occurred in one family where it is reported 10 people lived in one room; the toilet used was the "barn mostly." The drinking water was melted snow. "The family who lived there before this family came in had typhoid winter of 1934-35."

Case No. 17. "Sloppy untidy people." Had no toilet arrangements of any kind. One secondary case occurred in this house.

Certain individuals whose occupations make it necessary for them to move about from place to place and who consequently come in contact with living conditions which are probably not entirely satisfactory, are exemplified by the following two cases:

Case No. 1. A young man worked at farming and fishing, moving around considerably, drinking water obtained from various sources.

Case No. 2. A labourer returning from working around in the bush because he did not feel well. Stayed with relatives, and for six weeks was ill, but did not call a doctor. Typhoid was eventually diagnosed. Four other cases soon developed in the same household, and two cases among the neighbors.

Typhoid fever is now essentially a disease of rural areas, and of the cases reported so far this year, only one has come from an area where there is a common water supply and a sewerage system; among the other 40 cases, only two have been reported from incorporated towns and villages.

The following paragraphs are taken from an article on "The Typhoid Control Programme and Results of 13 Years' Work in Williamson County, Tennessee, 1922-35," contained in the United States Public Health Service report of January 3, 1936:

"Following the sanitation programme, in which approximately 85 per cent of the homes had an approved means of excreta disposal installed, typhoid fever practically disappeared."

"An analysis of the 13 year programme reveals three successive and distinct periods in which there was a marked reduction in typhoid morbidity and mortality rates in Williamson County. Since the reduction was proportionately greater than the reduction for surrounding areas without full-time health service and for the State at large, and since it coincided rather closely with the periods in which active and more efficient control measures were instituted and carried on, it logically follows that these measures in all probability were responsible for the declines noted."

The efforts being made towards typhoid fever control in this province include the epidemiological investigation of cases, general sanitation programmes, including sanitary surveys, and locating and controlling carriers, but it is evident that these measures have not penetrated to a sufficient portion of the population to have the desired effect on the general incidence of this disease.

The Department of Health and Public Welfare provides vaccine for immunization, literature for educational purposes and assistance in investigating and adjusting sanitary conditions.

—C.R.D.

COMMUNICABLE DISEASES REPORTED**Urban and Rural - March, 1936.****Occurring in the Municipalities of:**

Measles: Total 1946—Winnipeg 1249, St. James 95, St. Boniface 74, St. Vital 70, Unorganized 67, Rockwood 35, Flin Flon 33, Kildonan West 33, Kildonan East 31, Fort Garry 27, Virden 27, Napinka 19, St. Paul East 18, La Broquerie 15, Portage Rural 8, Brandon 7, Transcona 7, Lorne 5, Rosser 5, Hanover 4, Old Kildonan 4, Saskatchewan 3, Selkirk 3, Sigmunes 3, Lac du Bonnet 2, Manitou 2, Rivers 2, St. Andrews 2, St. Paul West 2, Tuxedo 2, Assiniboia 1, Brokenhead 1, Brooklands 1, Charleswood 1, Daly 1, Gladstone 1, Kildonan North 1, Morton 1, Norfolk South 1, Roland 1, Ste. Anne 1, Ste. Rose du Lac 1, Tache 1, Victoria Beach 1, Wallace 1, Whitewater 1, Late Reported: St. Boniface 36, St. Vital 19, Flin Flon 8, St. James 4, Kildonan East 3, La Broquerie 3, Boissevain 1, Transcona 1, Unorganized 1.

German Measles: Total 299—Whitewater 46, Roblin Village 25, Shell River 25, St. James 14, Unorganized 14, Lac du Bonnet 13, St. Andrews 13, Woodlands 11, Brandon 8, Brooklands 8, Selkirk 8, St. Boniface 4, Rockwood 3, Tuxedo 3, Rivers 2, Louise 1, St. Vital 1, Late Reported: Pipestone 100.

DIGESTOPHOS

(E. B. S.)

Each Fluid Ounce Represents:

Calcium Glycerophosphate.....	12 grs.
Sodium Glycerophosphate.....	8 grs.
Iron Glycerophosphate.....	2 grs.
Manganese Glycerophosphate	1 gr.
Quinine Glycerophosphate.....	½ gr.
Strychnine Glycerophosphate	1/16 gr.
and the Digestive Ferments—	
Pepsin, Pancreatin and Diastase.	

DOSE: One to two fluid drachms.

A Valuable Reconstructive Tonic in
Neurasthenia, General Debility and
in Functional Nervous Disorders.

FREE FROM SUGAR.

Clinical Sample on Request.

Specify "E. B. S." on Your
Prescriptions.

The

E. B. Shuttleworth Chemical Co.

Limited

MANUFACTURING CHEMISTS

TORONTO

CANADA



A representative Stock of E. B. S. products
carried by

CAMPBELL & HYMAN, LTD.
262 Edmonton Street
Winnipeg Manitoba

Mumps: Total 214—Winnipeg 70, Dauphin Town 43, Kildonan East 14, Shell River 11, St. Boniface 11, Roblin Village 10, St. James 6, Roland 5, Sifton 5, Unorganized 3, Norfolk South 2, Odanah 2, Selkirk 2, Victoria 2, Glenwood 1, Napinka 1, St. Clements 1, Tuxedo 1, Whitemouth 1, Late Reported: Pipestone 15, Tuxedo 7, Kildonan West 1.

Scarlet Fever: Total 189—Winnipeg 117, St. Vital 12, Unorganized 12, Roland 5, St. Boniface 5, Manitou 4, Rosser 4, Minitonas 3, Kildonan North 2, Pembina 2, Plum Coulee 2, Rapid City 2, St. Clements 2, St. Paul East 2, Transcona 2, Ethelbert 1, Grandview Rural 1, Gretna 1, Kildonan West 1, Langford 1, Lorne 1, Morden 1, Neepawa 1, Saskatchewan 1, St. Paul West 1, Ste. Rose Rural 1, Tuxedo 1, Victoria 1.

Chickenpox: Total 65—Winnipeg 33, St. Boniface 12, Fort Garry 6, Brandon 3, Hanover 3, Roland 3, Unorganized 3, St. Vital 1, Turtle Mountain 1.

Whooping Cough: Total 61—Winnipeg 20, Ellice 22, Brandon 1, Brooklands 1, Grandview Rural 1, Kildonan East 1, Woodlands 1, Late Reported: Whitewater 14.

Influenza: Total 37—Winnipeg 4, Late Reported: Morden 4, Portage Rural 2, Ste. Anne 2, Unorganized 4, Bifrost 1, Brandon 1, Cartier 1, Clanwilliam 1, Daly 1, Dauphin Town 1, Dufferin 1, Ethelbert 1, Grandview Town 1, Hanover 1, Louise 1, Minotia 1, Morris Rural 1, Mossey River 1, Portage City 1, Riverside 1, St. James 1, St. Vital 1, Sifton 1, Tache 1, Woodlands 1.

Tuberculosis: Total 29—Winnipeg 7, Unorganized 7, Argyle 1, Bifrost 1, Brokenhead 1, Cypress South 1, Dauphin Rural 1, Dauphin 1, De Salaberry 1, Gimli Rural 1, Neepawa 1, Norfolk North 1, Norfolk South 1, Rockwood 1, Strathcona 1, St. Boniface 1, St. James 1.

Diphtheria: Total 19—Winnipeg 12, St. Vital 2, Kildonan East 1, Montcalm 1, Morris Rural 1, Sifton 1, Whitehead 1.

Typhoid Fever: Total 16—Pembina 5, Cypress South 1, Hanover 1, Lorne 1, St. Vital 1, Late Reported: Hanover 2, Sigmunes 2, Cartier 1, Lorne 1, Portage Rural 1.

Erysipelas: Total 15—Winnipeg 7, Unorganized 2, Odanah 1, Ritchot 1, St. Andrews 1, St. Boniface 1, Transcona 1, Westbourne 1.

Puerperal Fever: Total 2—Winnipeg 2.

Trachoma: Total 2—Brandon 2.

Diphtheria Carriers: Total 2—La Broquerie 1, Morris Rural 1.

Veneral Disease: Total 108—Gonorrhoea 82, Syphilis 26.

Correction.—In the April issue of "The Review" the total figure of 75 for typhoid should have read whooping cough.

**DEATHS FROM ALL CAUSES IN MANITOBA
For the Month of February, 1936.**

URBAN—Cancer 35, Pneumonia 25, Influenza 21, Tuberculosis 10, Measles 6, Syphilis 2, Diphtheria 1, Puerperal Septicaemia 1, Scarlet Fever 1, Typhoid Fever 1, all others under one year 4, all other causes 185, Stillbirths 12. Total 304.

RURAL—Pneumonia 29, Influenza 27, Cancer 26, Tuberculosis 15, Measles 4, Erysipelas 3, Diphtheria 1, German Measles 1, Typhoid Fever 1, Whooping Cough 1, Syphilis 1, all others under one year 4, all other causes 156, Stillbirths 11. Total 280.

INDIAN—Tuberculosis 10, Influenza 5, Pneumonia 3, all others under one year 1, all other causes 8, Stillbirths 1. Total 28.

BIOLOGICAL PRODUCTS

Anti-Anthrax Serum	Scarlet Fever Antitoxin*
Anti-Meningococcus Serum*	Scarlet Fever Toxin for Dick Test*
Anti-Pneumococcus Serum {Type I}	Scarlet Fever Toxin*
Anti-Pneumococcus Serum {Type II}	Smallpox Vaccine*
Diphtheria Antitoxin*	Staphylococcus Antitoxin
Diphtheria Toxin for Schick Test*	Staphylococcus Toxoid
Diphtheria Toxoid*	Tetanus Antitoxin*
Perfringens Antitoxin	Tuberculin
Pertussis Vaccine	Typhoid Vaccine*
Rabies Vaccine	Typhoid-Paratyphoid Vaccine*

Heparin
Insulin
Liver Extract for Oral Use
Liver Extract for Intramuscular Use
{1cc. containing extract from 10 gms. of liver}

*The following additional products have been made available recently
by the Connaught Laboratories*

Adrenal Cortical Extract
Epinephrine Hydrochloride Solution 1:1000
Epinephrine Hydrochloride Inhalant Solution 1:100
Liver Extract for Intramuscular Use
{1 cc. Containing Extract from 20 gms. of Liver}
Outfit for Rapid Typing of Pneumococcus by Physicians

CONNAUGHT LABORATORIES
UNIVERSITY OF TORONTO
TORONTO 5 • CANADA

Depot for Manitoba
BRATHWAITES LIMITED, WINNIPEG

For use in the Province of Manitoba, products marked with an asterisk () in the above list are available to physicians and hospitals free of charge, upon application to the Provincial Department of Health and Public Welfare. In addition, by special arrangement between this Department and Municipalities, Insulin is available free of charge in the case of supplies of the product required by patients unable to pay therefor.

CIBALGINE "CIBA"

Cibalgin represents a non-narcotic analgesic and antipyretic worthy of the physician's confidence. It is indicated in the treatment of pain of every description, febrile manifestations, nervous excitement, insomnia due to pain, dysmenorrhoea, etc.

Ciba Company Limited
MONTREAL

Control the Summer Scourge of Poison Ivy

The Winnipeg Drug Co., Ltd., are agents for CUTTER'S Vaccines and Biologicals, including—

CUTTER'S POISONIVI—an oral vaccine which gives complete immunity.

CUTTER'S TOXIVI — an intramuscular treatment for poison ivy.

Also agents for NICHOLSON'S Hay Fever Vaccine.

MULFORD'S BIOLOGICALS.

The most complete prescription stock—including the latest Pharmaceuticals and Chemicals.

We solicit your enquiries by phone, wire or letter.

THE WINNIPEG DRUG CO., LTD.

407 PORTAGE AVE. (Cor. Kennedy)

WINNIPEG

Phone 21 621

LABORATORY POULENC FRERES OF CANADA LIMITED

The home of:

NOVARSENOBENZOL BILLON

And other highly ethical pharmaceutical specialties.

Rouger Frères 350 Le Moyne St. Montreal

Manitoba Nurses' Central Directory

214 Balmoral St. Phone 72 151

OFFERS HOURLY NURSING CARE

At \$1.25 for First Hour and 75c for each succeeding hour for any type of nursing care needed in the home.

All Services Rendered by Registered Nurses.
An 8-Hour Day at \$3.00 per Day

Medical Library University of Manitoba

A summary of the contents of some of the journals available for practitioners, submitted by the Faculty of Medicine of the University of Manitoba. Compiled by T. E. HOLLAND, B.Sc., M.D. (Man.), F.R.C.S. (Edin.).

"The Practitioner"—February, 1936.

This number contains a symposium on diseases of the Large Intestine — composed of the following articles:

"Carcinoma of the Colon"—by Sir Charles Gordon-Watson, K.B.E., C.M.G., F.R.C.S., Senior Surgeon, St. Bartholomew's Hospital.

"The Treatment of Colitis"—by S. W. Patterson, M.D., D.Sc., F.R.C.P.

"Pruritus Ani"—by W. J. O'Donovan, O.B.E., M.D., M.R.C.P., Physician Skin Dept., London Hospital.

"Colostomy and its Management" — by W. B. Gabriel, M.S., F.R.C.S., Surgeon, Royal Northern Hospital.

"Haemorrhoids"—by C. Naunton-Morgan, M.B., F.R.C.S., Senior Assistant Surgeon, St. Mark's Hospital.

"Fistula in Ano"—by O. V. Lloyd Davie, M.S., F.R.C.S.

The following additional articles are of value:—

"Rickets"—by J. C. Sinse, M.D., F.R.C.P., Assistant Physician, Royal Victoria Infirmary.

"The Early Diagnosis of Infantile Paralysis and its Treatment"—by James M. Smellie, M.D., F.R.C.P.

"A Note on the Treatment of Osteo-Arthritis of the Hip" — Senior Physician, The Royal Waterloo Hospital and Royal Hospital, Richmond.

♡ ♡ ♡

"The Practitioner"—March, 1936.

A symposium on Diseases of the Lymphatic System is contained in the following articles in this issue:

"Leukaemia, Differential Diagnosis and Treatment"— by H. Letheby Tidy, M.A., D.M., F.R.C.P., Physician, St. Thomas's Hospital.

"Status Thymico-Lymphaticus" — by Henry Cohen, M.D., F.R.C.P., Professor of Medicine, University of Liverpool.

"Tuberculosis of Lymphatic Glands" — by Eric Pearce Gould, M.D., M.Ch., F.R.C.S., Surgeon, The Middlesex Hospital.

"Hodgkin's Disease and New Growths of the Lymphatic Glands"—by W. G. A. Swan, M.B., M.R.C.P.

"Acute Lymphangitis and Acute Lymphadenitis"—by Harold C. Edwards, M.S., F.R.C.S., Surgeon and Lecturer in Surgery, King's College Hospital.

"The Canadian Medical Association Journal"
—March, 1936.

"Coeliac Disease" — by Fred Shippam, M.D., M.R.C.P. (Edin.) Montreal.

"Endometriosis of the Large Bowel"—by Neil John MacLean, M.D., M.R.C.S. (Eng.), F.A.C.S., F.R.C.S. (C.), Consulting Surgeon Winnipeg General Hospital.

"Tip of the Nose Completely Sectioned: Sutured Three Hours After the Accident"—by J. N. Roy, M.D., F.A.C.S., Physician to the Notre Dame Hospital, Montreal.

"Inguinal Hernia: With Special Reference to Sliding Hernia and a New Treatment"—by L. S. Mackid, M.D., F.A.C.S., Calgary.

"The So-Called Mosaic Fungus as an Intercellular Deposit of Cholesterol Crystals"—by A. M. Davidson, M.B., Ch.B. (Edin.), M.D. (Man.), M.R.C.P. (Edin.), F.R.C.P. (C.), and P. H. Gregory, B.Sc., Ph.D. (Lond.).

"Neurosypilis"—by J. C. Hossack, M.D., C.M., Lecturer in Medicine, University of Manitoba, and S. C. Peterson, M.D., Demonstrator in Venereology, St. Boniface Hospital, Winnipeg.

"Primary Carcinoma of the Jejunum"—by John E. Plunkett, M.D., and Maurice P. Foley, M.D., Fellows in Medicine, The Mayo Foundation, and Albert M. Snell, M.D., The Mayo Clinic, Rochester, Minn.

"The Sex Hormones and Their Value as Therapeutic Agents" — by Melville C. Watson, M.B., Toronto.

"Excessive Perspiration"—by A. Howard Pirie, M.D., Royal Victoria Hospital, Montreal.

—A Method of X-ray treatment composed of one epilating dose (250R) at intervals of one month for 6 months is described.



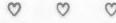
"Edinburgh Medical Journal"—March, 1936.

This number contains a number of articles on diagnosis and treatment of various forms of Tuberculosis.

The following excellent paper, read at a meeting of Medico-Chirurgical Society of Edinburgh, December 4th, 1935, is also included.

"Diagnosis and Treatment of Acute Abdominal Conditions in Children"—by Sir LanceLOT E. Barrington-Ward, K.C.V.O., F.R.C.S., Senior Surgeon, Hospital for Sick Children, Great Ormond Street, London.

—The interesting and illuminating discussion which followed is included.



"The Practitioner"—March, 1936.

A symposium on Diseases of the Lymphatic System is contained in the following articles in this issue.

"Leucæmia. Differential Diagnosis and Treatment" — by H. Letheby Tidy, M.A., D.M., F.R.C.P., Physician, St. Thomas's Hospital.

"Status Thymico-Lymphaticus" — by Henry Cohen, M.D., F.R.C.P., Professor of Medicine, University of Liverpool.

RIVERBEND
SCHOOL FOR GIRLS
WINNIPEG

Residential and Day Pupils
Well-Equipped Buildings—Beautiful Grounds
Gymnasium and Out-door Sports
Courses from Kindergarten to
Grade XII inclusive
Home Economics
Special Riverbend Diploma Course.
For Prospectus—Apply to The Principal
Miss J. M. Carter, B.A.

YOUR

FIRE

AUTOMOBILE

ACCIDENT — SICKNESS

PHYSICIANS and DENTISTS

LIABILITY

BURGLARY and ROBBERY

INSURANCE

placed with us will be appreciated. In case of loss your interests are our first consideration. We represent only financially responsible Board Companies.

Medical Business Bureau

101 MEDICAL ARTS BUILDING

WINNIPEG, MAN.

Telephone 23 534

QUALITY FLOWERS

311 DONALD
STREET

The Orchid

Phone
87 971 - 80 887

Victor L. Scott

Its food value is greater
than many "Food Products."

•
**Drewrys Dry
Ginger Ale**

3 Sizes: 6-oz. — 12-oz. — 28-oz.

MCLEAN PRINTERS

Printers of "The Review"

•
Kelvin and Hart -:- WINNIPEG

Phone 501 122

Men's Clothing

Ready to Wear

—and—

Custom Tailored

—ALSO—

Hats Shirts Furnishings

Prices that will deserve your
consideration

McCREERY'S LTD.

293 Portage Ave. Winnipeg
(One door East of Capitol Theatre).

At Your Service . . .

PARKE, DAVIS & COMPANY

The World's Largest
Makers of Pharmaceutical
and Biological Products

*Descriptive literature concerning any of
our Products will be gladly supplied
to physicians on request.*

WINNIPEG BRANCH
138 Portage Ave. East
Phone 92 443 92 444

The Western Savings & Loan Association

MORTGAGE LOANS

Paris Building

Winnipeg

Agencies

BRANDON
SASKATOON
EDMONTON

REGINA
CALGARY
LETHBRIDGE

For Saving's Sake

Make Your
Out-of-Town
Calls in the
Evening and
on Sundays.

NIGHT CALLS
7 p.m. to 4.30 a.m.

WEEK-END
RATES
7 p.m. Saturday
until 4.30 a.m.
Monday.

On Both
“STATION-TO-STATION”
and
“PERSON-TO-PERSON
Calls.

Manitoba Telephone System

Clinical Section

Kidney Conditions Complicating Pregnancy

By

A. HOLLERNBERG, B.A., B.Sc., M.D., (Man.)

*Physician St. Boniface Hospital,
Lecturer in Medicine, University of Manitoba*

Kidney conditions which manifest themselves during pregnancy—both parenchymal and pyelitic, occur in about 3.8% of pregnancies.

PYELITIS

Pyelitis of pregnancy is a complication of a little less than 1% of all pregnancies. It is now recognized that normally one or both ureters and pelvis become enlarged during pregnancy. This enlargement has been attributed to the pressure of the uterus over the inlet of the pelvis with consequent back pressure on the pelvis and ureters. On account of the torsion of the uterus to one or other side, so one or other ureter and pelvis is the more affected. Stasis of urinary flow is therefore the background upon which infection may occur.

The infection proper is usually that of bacilli coli and for that reason constipation is most often blamed as the precipitating cause. Other foci of infection are however also capable of initiating infection upon this fertile ground of urinary stasis and the primary cocci are replaced later by bacilli coli, as the latter is frequently excreted even in normal urine.

By far the greatest number of cases of pyelitis occur in primiparae. One author states that in his series 64% occurred in the first pregnancy, 12% in the second and so on.

Pyelitis may occur during any period of gestation and also in the puerperium. The largest number occur in the middle third of pregnancy and the next largest number occur in the puerperium, usually the second to the fifth day — especially following difficult labor.

The term pyelitis is frequently attacked as inadequate in the description of the pathological picture. The kidney parenchyma is always involved to lesser or greater extent, so that pyelonephritis is the more accurate term. MacCallum has described as coexisting with the inflamed and thickened pleves and ureters, minute abscesses in the cortex of the kidney. These coalesce as the condition progresses, forming small bulging abscesses on the surface of the kidney. If drainage is not established the entire kidney may be destroyed.

SYMPTOMS AND CLINICAL COURSE

This condition exists in two forms, the rarer, acute fulminating type and the more common, subacute type. The acute type is ushered in by

chills, high fever of the pyaemic type with marked toxicity and prostration. Nausea and vomiting are usually present and are only relieved when full drainage is established. Pain in the back is often present in the kidney regions. One or other or both kidneys may be tender to palpation. This condition may persist for 2 or 3 weeks without let up.

The diagnosis is not difficult when one thinks of the possibility, especially as pus and bacilli are ultimately found on microscopic examination of the urine. In the onset the urine may not show any pus; there is only to be found the systemic reaction to the infection and as that progresses pus will be elaborated and make its appearance in time. It is in the period of systemic reaction before pus is elaborated, that clinicians feel most concerned—particularly in the puerperium when on the 2nd or 3rd day the chills and fever come presenting the picture of a possible puerperal sepsis or pelvic cellulitis. Persistence in the microscopic examination of catheterized specimens of urine will often be rewarded by discovering the true cause of this systemic reaction.

In the subacute type of pyelitis, which occurs much more often than the acute type, the symptoms are milder and the condition is discovered by routine urinalysis.

TREATMENT

The majority of cases result in spontaneous relief after such simple measures as rest in bed, forced fluids by mouth and vein, bland diet, and the alteration of reaction of the urine by the use of alkalies and acids with Urotropin by mouth. It is well known that when the patient is rendered symptoms free, there is some residual infection which may light up at any time and it may be several months after parturition before the last vestiges of infection disappear. There are a few cases which resist these simple measures and in them the dangers of permanent renal damage are so great that more heroic means must be adopted in their treatment. In these, cystoscopy with unilateral or bilateral ureteral catheterization and irrigations of the pelvis with 2% AgNO₃ or 20% Argyrol is the only sure way of avoiding the major complications of this condition. The ureteral catheters may be left in situ from 2 to 12 days for drainage.

In the last few years the ketogenic diet in the treatment of pyelonephritis has given good results but one must limit the fluid intake to get a sufficient concentration of diacetic acid in the urine to kill the infecting flora. Mandelic acid has been introduced to displace the discomfort of a very high fat diet but in principle it is the same; Mandelic acid being a higher member in the group to which diacetic acid belongs.

The prognosis of pyelitis for the mother is usually good. One attack does not mean that it

will recur in a subsequent pregnancy, but a rapid succession of pregnancies will of course perpetuate the condition. The prognosis for the foetus depends on the degree of pyrexia and the severity of the toxæmia. Hyperpyrexia and chills are undoubtedly a cause of abortion.

NEPHRITIS

As mentioned before almost 3% of all pregnancies are complicated by one or other form of nephritis. The types of nephritis complicating pregnancy are four in number:

1. Acute nephritis.
2. Low reserve kidney.
3. Toxaemic kidney.
4. Bright's disease or essential hypertension with kidney changes.

1. Acute Nephritis:—This condition is rare but it may occur in pregnancy as in the non pregnant state.

2. Low reserve kidney:—A pregnant woman may have had an acute nephritis as a child which has healed or she may normally have a kidney of low capacity which from all possible evidence is able to carry the load of excretion. During pregnancy there is an added burden on the kidney due to increased metabolism and to the foetal waste products. Insufficiency develops with its train of symptoms.

3. Toxaemic kidney:—The cause of toxæmia of pregnancy is unknown. It may affect the kidney, liver and brain—one or all. When it affects the kidney it produces a toxic degeneration of the specialized epithelium producing a nephrotic syndrome.

4. Bright's Disease:—There are women with definite essential hypertension and vascular changes in the kidneys or old 3rd stage glomerulonephritis (Bright's disease) who become pregnant. Some are aware of their previous condition and in some the old condition is only discovered when pregnancy is well on its way and renal insufficiency becomes manifest.

All these four forms of nephritis may present themselves to the obstetrician and demand his attention and differentiation. Occasionally the picture may start with one form and be complicated by another. A low reserve kidney may be complicated by toxæmia and become a toxæmic kidney as well. A chronic Bright's disease may be complicated by an acute nephritis or toxæmia. There is one thing to be remembered and that is, any form of renal insufficiency is a fertile soil for the development of toxæmia and eclampsia and all its horrors. Another general principle derived from the study of these conditions is that when the kidney symptoms and signs progress in spite of treatment foetal death inevitably occurs. In addition permanent renal damage is done which in turn becomes more progressive and reduces the life expectancy of the mother.

It therefore follows that in kidney complica-

tions of pregnancy where treatment arrests the process or causes it to recede, pregnancy may be left undisturbed—but whenever in spite of treatment the signs of impairment of kidney function progress labor must be induced for three reasons, one, to get a living baby even if premature, secondly to prevent the onset of toxæmia and eclampsia, and lastly to prevent greater and more progressive renal damage.

Differential diagnosis of the four conditions:

1. Acute nephritis: There are fever, oedema, oliguria, headache, bloody urine, marked albumin, blood and epithelial and granular casts. Blood pressure is raised but not excessively. There is leucocytosis, raised blood urea N.

2. Kidney of low reserve: This is the most common and mildest of all kidney complications of pregnancy and it comprises 35% to 40% of all the nephritides of pregnancy. It occurs late in pregnancy (8th month) and has a very low maternal mortality and is usually followed by complete recovery. Oedema is present but not the type that is easily seen. It is noticed by an excessive gain in weight at the 7th or 8th month of gestation. Albuminuria is definite, B.P. is raised, e.g. 150/95. There are no blood, pus, and casts in the urine unless an acute nephritis or toxæmia supervenes. There are no eye ground changes. The condition responds very well to treatment namely purgation, restriction of diet with regard to salt and protein. If it becomes complicated by toxæmia headache develops, B.P. rises, kidney concentration decreases, eye grounds begin to show papilloedema and hemorrhages, and before these secondary signs go very far eclampsia may come on or the foetus die in utero. Keeping the patient under careful observation for the first signs of toxæmia both eclampsia and a dead baby may be avoided by induction of labor irrespective of the term of gestation.

3. Toxaemic Kidney: Here the symptoms are those of pre-eclampsia with toxic degeneration of the kidneys. There is oedema and puffiness, oliguria with definite albuminuria. B.P. is raised more than in the kidney of low reserve, e.g. 185/115. There is marked increase in blood cholesterol and the urine shows hyaline and granular casts. Headache, scotomata, amaurosis, and muscular twitchings may occur and are of great importance in indicating that delivery must be quickly effected. The foetal mortality is great. There may be signs of liver damage e.g. jaundice or cerebral damage (e.g. twitchings and convulsions). If the condition progresses the eye grounds show hemorrhages. This condition usually comes on at 7½ months gestation. Urine concentration is low and blood urea N is at the upper limit of normal or greater.

4. Pre-existent nephritis or vascular disease: Here symptoms come on early in pregnancy i.e. 5-6 months gestation. The B.P. is extremely high, e.g. 194/148. There may be eye signs i.e. hemorrhages and cotton wool patches in the retina. The urine is large in volume and of low sp.gr. with

albumin and hyaline and granular casts. There is a raised blood urea N. Foetal death occurs in about 60%. As soon as the signs of renal incompetence begin to show i.e. raised B.P., low sp. gr. urine with raised blood urea N, and hypertensive encephalopathy symptoms (headache, nausea and vomiting) labor must be induced. Purgings, free fluids by mouth and intravenously, low protein diet, sometimes retard the onset of the signs of renal insufficiency and may tide over the foetus into the period of viability. There is no oedema in this condition unless toxæmia or cardiac failure supervene, and developing oedema is therefore a grave prognostic sign which compels quick delivery of the foetus whether viable or not.

In summing up one may say that nephritis in pregnancy is a very serious condition both for mother and foetus. Cases, even though mild, must be hospitalized and watched from day to day. So long as rest, fluids, diet and purgation produce regression of all the signs and symptoms of renal incompetence and toxæmia watchful waiting is justified. But when therapeutic measures do not relieve these signs, symptoms and findings or where they progress, immediate induction of labor must be practiced in order to get a living baby and to reduce the amount of permanent renal damage to the mother. In cases where viability of the foetus has not yet been reached, the same principle of induction of labor must be observed for the sake of saving permanent and progressive renal damage to the mother.

**CONTRAST BETWEEN TYPES OF NEPHRITIS
IN PREGNANCY**

	Kidney of Low Reserve	Toxaemic Kidney	Pre- Existant Nephritis
Total Nephritis %	38%	25%	35%
Average Age	26	26	29
Primiparae %	52%	57%	55%
Month of Onset of Symptoms	8 months	7½ months	5-6 months
Onset Abrupt %	68%	92%	20%
Blood Pressure	153-95	185-115	194-148
Low Reani. Conc. %	50%	80%	95%
Delivery (month)	8 month	8 month	7 month
Spontaneous Labor %	66%	35%	40%
Induced Labor %	34%	65%	60%
Foetal Death	20%	43%	60%

During the hot weather, when fat tolerance is lowest, many physicians have found it a successful practice to transfer cod liver oil patients to Mead's Oleum Percomorphum.

Due to its negligible oil content and its small dosage, this product does not upset the digestion, so that even the most squeamish patient can "stomach" it without protest.

There are at least two facts that strongly indicate the reasonableness of the above suggestion: (1) In prematures, to whom cod liver oil cannot be given in sufficient dosage without serious digestive upset, Mead's Oleum Percomorphum is the anti-ricketic agent of choice. (2) In Florida, Arizona and New Mexico, where an unusually high percentage of sunshine prevails at all seasons, Mead's Oleum Percomorphum continues increasingly in demand, as physicians realize that sunshine alone does not always prevent or cure rickets.

Mead Johnson & Company, Evansville, Indiana, invite you to send for samples of Mead's Oleum Percomorphum for clinical use during the summer months to replace cod liver oil.

—Advt.

ROBOLEINE

"The Perfect Food"—B.M.J.

This Tonic Food is a rich source of vitamins A, B, C and D, and is of delicious flavor.

FORMULA:

Red Bone Marrow
Egg Yolk
Lemon Juice (Neutralized)
Cream of Malt
Vitad (The vitamin-containing fraction of Cod Liver Oil)

Roboleine is a potent reconstructive tonic of particular value in anaemic and nervous children and adults.

•
NEW LOW PRICES

12 oz. jars \$1.25 36 oz. jars \$3.35

•
OPPENHEIMER SON & CO.

LIMITED

LONDON - ENGLAND

Samples and Literature upon request to
VAN ZANT & COMPANY
357 COLLEGE ST. - TORONTO

Illustrating
the
Back Lacing
System
Used in
"FISHER-MADE"
Health
Supports

Made By

**Fisher & Burpe
Ltd.**

Factory
Winnipeg

NEW
CATALOGUE
of
these
Supports
now
available.

Copy will be sent
on request.



ANAHÆMIN B.D.H.

**The active haematopoietic liver-principle
described by Dakin and West**

The report of the clinical trials of Anahaemin B.D.H. arranged by the Medical Research Council, London, England (*Lancet*, February 15th, 1936, p. 349) demonstrates that by its use pernicious anaemia can be treated successfully with the minimum of inconvenience and expense.

One injection of 2 c.c. of a solution containing 100 mgm. of anahaemin per c.c. produces an immediate reticulocyte response, followed by a striking increase in the number of red blood corpuscles which is sometimes maintained for a period of over 30 days.

In many cases, one such injection at monthly intervals will constitute effective treatment; indeed, according to the report ' . . . no other liver extract given in the small amounts used . . . has produced such striking results.'

Further particulars will be gladly supplied by

The British Drug Houses (Canada) Ltd.

Terminal Warehouse

TORONTO 2, ONT.

An/Can/366



COPRON ELIXIR

— LIVER EXTRACT

Liver extract contains a certain factor which is effective in correcting anemia because it is essential to the production of mature red blood corpuscles. This factor also causes a prompt increase in red cells by supplying something essential to their structure.

— IRON

The chief constituent of hemoglobin is iron. Therefore iron is necessary in the treatment of anemias. The reason for the former uncertainty of results is that iron cannot be utilized for hemoglobin formation unless a certain metabolic activator is present.

— COPPER

This element is most effective as a metabolic activator. It has been found that iron and copper should be present in a definite ratio for them to be fully effective in the formation of hemoglobin. This ratio is 1 part copper to 25 parts of iron—the ratio in which they occur in ABBOTT'S COPRON ELIXIR.

ABBOTT LABORATORIES LTD.
MONTREAL — CANADA